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The Country Doctor

If the Lord has ever made
Any man of any trade,
More deserving of high praise
For his fine, unselfish ways
Than the country doctor, then,
Nothing much, I know of men.

Gifted, trained, engaging, young,
With the wit to move among
People blessed with wealth to pay
Fat fees promptly, day by day,
Yet with happy heart he heeds
Cashless calls and nameless needs.

Where pain prevails in hut or hall,
He comes with cure, alike for all.
For silken couch or bed of straw,
His heart obeys one common law.
Like Christ, he makes his spirit food,
Compassion for the multitude.

His name and fame are seldom sung.
He lives and serves and loves among
God's lowly children, proud to be
A balsam for their misery.
To every country doctor, then,
Here's tribute from their fellow men.

DAVID E. GUYTON
Blue Mountain, Mississippi.

Written for *THE MISSISSIPPI DOCTOR*

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Headache*

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ADAMS HAS aptly stated that "Headache, or cephalalgia, is a term which encompasses all pains, 'miseries', and discomforts located in the region of the cranium. It is probably the most common and subtle symptom encountered in the practice of medicine. Headache is not an independent disease. Usually this symptom indicates a benign, functional disorder, which, though unpleasant and perhaps incapacitating at the time, does not lead to permanent injury or to the shortening of life. Occasionally it may serve as a warning of serious disease, particularly of the cranial structures. This dual significance, the one benign, the other malignant, requires that every patient suffering from this symptom be subjected to careful scrutiny from many directions. To do this sufficiently, the physician must have a broad knowledge of medical diseases and a methodical approach to the problem, which leaves none of the common and treatable causes of headache unexplored."[1]

By careful analysis of several types of headache Wolff[2] has shown that spontaneous pain is produced by the operation of any one or several of the following mechanisms, which account for most of the common varieties of headache: 1) distention, traction, or dilatation of intracranial or extracranial arteries, 2) traction or displacement of large veins and their dura, 3) compression, traction or inflammation of the fifth, ninth, and tenth cranial, and first, second, and third cervical nerves. and 4) involuntary or voluntary spasm of cranial and cervical muscles.

For purposes of this paper some etiological classification of common headaches encountered in clinical practice is needed. The following grouping of headaches, admittedly imperfect, is therefore proposed. Undoubtedly, headaches, under any one heading have features which might adequately classify them under two or more categories.

Etiologic Classification of Common Headaches

- I. Cranial arterial distention or traction
  - A. Extracranial (primarily)
    - 1. Migraine
    - 2. Paroxysmal temporal headache Hypertensive headache
  - B. Intracranial (primarily)
    - 1. Histamine headache
    - 2. Toxic and prexial headache
    - 3. Caffeine-withdrawal headache
- II. Involvement of the cranial nerves and muscles
  - 1. Ocular headaches
  - 2. Nasal and sinus headaches
  - 3. Cervical arthritis
  - 4. Periodic occipital headache
- III. Traction and displacement of the large veins and their dura
  - 1. Headache from lumbar puncture
  - 2. Headache of brain tumor
  - 3. Headache of subdural hematoma
  - 4. Headache of intracranial aneurysm
  - 5. Post-traumatic syndrome
  - 6. Hypertensive encephalopathy
- IV. Miscellaneous
  - 1. Psychogenic headache
  - 2. Gynecologic headache
  - 3. Arteritis
  - 4. Headache caused by constipation

I. Cranial arterial distention or traction

A. Extracranial (primarily)

1. Migraine headache — It has been estimated by Lennox[3] that there are approximately fifty persons with migraine to each practicing physician in the United States. Because of its great frequency and disabling severity, migraine is an outstanding problem. Its etiology is unknown; the cause has been variously associated with allergic phenomenon[4], endocrine abnormality, [5,6] increased water retention[7], localized cerebral[8], psychiatric disorder[9], distention of the extracranial arteries[10]. It most commonly afflicts nervous, tense, intelligent, highly sensitive, socially attractive, conscientious and painstaking women who have a tendency to ready fatigue[11]. The incidence is three times as high in women as in men and the pattern consists of recurrent attacks over a period of many years.

Symptoms of migraine have been adequately described by von Storck and many others[12], consisting of recurrent headache, usually, but not necessarily, hemicranial. The pain may alternate from one side to the other; it may, at times, be bilateral or even generalized. Visual phenomena, such as scotomata, blurring of vision, and "dancing spots", associated with pain in the eye and lacrimation, are not uncommon in the preheadache period. Gastrointestinal symptoms, usually nausea, and often vomiting, are present. There is usually a familiar history of "sick headache." Disturbances of the sympathetic nervous system, evidences by pallor and sweating, are common. Severe involvement of the central nervous system is infrequent, but temporary paralysis of the third nerve, hemiplegia, and paresthesia have been recorded. Attacks last from one to three days, although some are of short duration. Recurrences vary from once in several months to once a week.

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Graham and Wolff[10] have reported highly significant observations in sixteen patients. They discovered a close correlation between amplitude of pulsations of the extracranial arteries and intensity of the headache. Reduction in amplitude of pulsation in the temporal artery (during an attack) by administration of ergotamine tartrate, or by digital compression of the artery, diminished or abolished the headache. In four patients pain was limited to the distribution of the temporal and occipital arteries and could be completely removed by digital pressure sufficient to obliterate arterial pulsation. They conclude that most, if not all, of the pain in migraine is associated with extracranial vascular dilatation.

The cause of the arterial distention remains obscure. Because the etiology of migraine is unknown, many therapeutic regimens have been advocated. The advantage of suitable personal hygiene, including regular sleep, regular means, and avoidance of strain and worry, have been emphasized[5]. Specifically, ergotamine tartrate in doses of 0.25 - 0.5 mg. subcutaneously cause the headache to disappear in from one to three hours; with intravenous administration, relief is obtained in ten to fifteen minutes. Oral administration of doses of 1 mg. four times daily may aid in preventing attacks. This drug is contraindicated in patients with hypertension, coronary disease, peripheral vascular disease, and hepatic disease. Toxic manifestations, such as nausea, vomiting, numbness and tingling of the extremities, muscle pains and fatigue, have been reported. Benzedrine sulphate has been shown by Gottlie[20] to be a successful substitute for ergotamine tartrate in some instances. Alvarez[11] states that if intramuscular injection of gynergen (ergotamine tartrate) at the start of a bout of migraine aborts the symptoms, the condition is almost certainly migraine. It should be noted that failure of ergotamine tartrate to relieve an attack does not rule out migraine.

Palmer[21] reports that vitamin B_1 in large doses will relieve 70 per cent of the attacks in one to three hours. The method consists in daily intramuscular injection of 30 to 100 mg. of vitamin B_1 for one to two months; in aborting an acute attack as much as 150 to 180 mg. is given intramuscarly. This therapy has completely relieved twenty-five out of forty-eight patients. Inhalation of 100 per cent oxygen for one to two hours beginning at the onset of the attack is valuable in many cases, according to Alvarez[22]; the inconvenience of having an oxygen tank on hand and of educating the patient in its use reduces the desirability of this therapeutic agent. The mechanism of relief is not clear. Dunn[23] has reported excellent results with the use of estrogenic substances even in male patients. Leyton has advocated the use of anterior pituitary-like hormone in combination with prostigmin desensitization[24].

2. **Paroxysmal temporal headache.**—The author[15] has reported a series of cases fulfilling the characteristics of migraine in many instances, with pain limited to the distribution of the temporal artery and its branches. This "paroxysmal temporal headache" is frequently classed as migraine, and prolonged relief (at least two years to date) can be obtained by section and ligation of the artery on the affected side. Pain can also be abolished by periarterial infiltration with procaine hydrochloride and can be greatly diminished by digital compression of the artery. The foregoing data support the contention of Wolf that a large part of the pain in migraine is caused by increased pulsation associated with dilatation of the extracranial branches of the external carotid arteries, which produce painful stimuli and headache.

Schumacher and Wolff[16] postulate that cerebral vasoconstriction is responsible for the headache phenomena of scintillating scotomata. The fact that increased cerebrospinal fluid pressure compressing the pial and cerebral arteries does not alter the headache indicates that these arteries are not dilated and are not major contributing factors in the production of pain. Intracranial vasodilatation would be at least partially relieved by raising the pressure of the cerebrospinal fluid. Dickerson[13] pointed out that in certain cases of migraine the pain could be alleviated by ligation and section on the affected side of the middle meningeal artery, which is a branch of the external carotid. Pazer, Derbes and Engelhardt[14] have obtained relief in certain cases of migraine by periarterial infiltration of eucupine and procaine hydrochloride.

3. **Hypertensive headache.**—A relatively characteristic headache is associated with hypertension. It is worse in the early morning, frequently awaking the patient. Any part of the head, except the vertex, may be involved, but most commonly pain is felt in the occipital and frontal regions[17]. The headache is frequently throbbing in character[18] and is usually bilateral. It is often relieved by sitting up, walking about, and often wears off soon after breakfast.

Sutherland and Wolff[18] have shown that there exists a close correlation between intensity of the headache and changes in amplitude of pulsation of the cranial arteries, particularly branches of the external carotids, and that the mechanism active in production of these headaches is somewhat between the level of the hypertension and the incidence of the headache. Some patients actually improve as the blood pressure rises and may feel worse when it drops. However, the majority of patients have fewer headaches when the blood pressure falls. Robey[19] reported that in some 200 patients with hypertension fifty had headache, and 150, with the same degree of hypertension, had no headache. In patients with hypertensive headache there is no increase in spinal fluid pressure unless heart failure, cerebral hemorrhage, or hypertensive encephalopathy is present. Salicylates and sedatives are of only slight value. Many patients are benefited by sleeping on a bed which is elevated about eighteen inches at the head; this is possibly associated with the fact that relief is obtained in the upright position. Hypertensive headache tends to wax and wane; it may be present over a period of months and suddenly disappear for no apparent reason.

B. **Intracranial** (primarily)

1. **Histamine headache** — It is well known that injection of histamine in doses of 0.5 - 1.0 mg. subcutaneously or 0.01 - 0.03 mg. intravenously results in facial flushing, rapid pulse, a sensation of tension in the head, and frank headache. The mechanism of histamine headache is presumably associated with intracranial vasodilation resulting from an imbalance between blood vessel tension and cerebrospinal fluid pressure. Wolff and his coworkers[25,26] have shown that histamine headache does not occur when pressure of the cerebrospinal fluid is elevated, because the intracranial cerebral arteries at the base of the brain are then supported by increased extramural pressure and will not dilate in response to histamine injection. This is particularly true when the arterial blood pressure is low. Pickering[27] has shown that headache does not begin until the blood pressure rises to normal and the cerebrospinal fluid pressure falls to its original level. The vasodilating effect of histamine becomes a factor in the production of headache when the opposing pressures are balanced; the blood vessels can then dilate sufficiently to cause pain.

Under certain circumstances patients apparently become sensitized to endogenous histamine liberated in the organism. In such instances they may experience severe headache, described by Horton and his coworkers as erythromelalgia of the head[28]. A typical histamine headache is characterized by an abrupt onset of throbbing, unilateral pain, often of great severity. Attacks usually appear at night and are of relatively short duration, lasting from one-half to one hour. The affected side of the face is flushed and feels warm; there is also increased lacrimation and congestion on that side. The temporal blood vessels may stand out prominently. These patients all exhibit extreme cutaneous sensitivity to histamine.

I have recently encountered such a case in a fifty-two-year-old female who had bouts several times a day for a period of three months. She had never previously had a similar headache. Large doses of narcotics had been given without successful termination of symptoms. A typical attack was precipitated by subcutaneous injection of 0.1 mg. histamine, and a spontaneous attack disappeared almost entirely with oral administration of 100 mg. of benedryl. Desensitization with histamine effected complete cure.

Treatment for histamine headache may be successfully accomplished by injection of small, increasing doses of histamine twice daily over a period of two weeks, by intravenous infusion of 1 mg. of histamine in 500 cc. of saline on several occasions, and lastly by increasing small doses of histamine azoprotein subcutaneously.

2. **Toxic and pyrexial headache** — The mechanism of headaches associated with intoxicants and febrile disorders is interesting. Sutherland and Wolff[18] have demonstrated similarity of mechanisms in pyrexial and histamine headaches. During fever there is demonstrable increase of the amplitude of pulsations of the intracranial arteries, specifically the cerebral and pial branches of the internal carotids. If the amplitude of these pulsations is diminished by increasing the presence of the spinal fluid, as has been done by Pickering[27], the intensity of the pain is lessened. On the other hand, it is known that ergotamine tartrate is ineffective in mitigating these headaches because this drug acts primarily on branches of the external carotid artery.

These headaches are deep, dull, and aching, and lack the superficial components of migraine; they are generalized and aggravated by movement. Cure, of course, depends on successful treatment of the underlying disease. The headaches of meningitis, encephalitis, uremia, cerebral thrombosis and embolism constitute only a small part of the general clinical picture in which other signs and symptoms make the diagnosis relatively clear.

3. **Caffeine-withdrawal headache** — Recently, Dreisbach and Pfeiffer[52] have reported on the occurrence of headache following cessation of the use of caffeine, presumably due to a reflex dilatation of cerebral vessels. It commonly occurs in coffee-drinkers and in persons who consume other caffeine-containing beverages. In a planned experiment with thirty-eight medical students, headache developed in twenty-one following withdrawal of the drug, which had been given in tablet form. Placebo tablets were substituted in order to eliminate the psychic factor. On the day of withdrawal, lethargy was usually noticeable in the morning, and a feeling of cerebral fullness was experienced about noon. Actual headache ordinarily began in the afternoon and reached a peak three to six hours later. It was localized as occipital and central at the onset but soon became generalized and throbbing. There occurred also a mental depression, drowsiness, yawning, and a disinclination to work. The headache was intensified by bending over, by straining, or by violent exercise; compression of the jugular vein had no effect. The authors were able to relieve the pain with caffeine and aspirin.

II. Involvement of the cranial nerves and muscles

1. **Ocular headaches** — Headache ranks second to defective vision as an ocular symptom. Approximately fifty per cent of patients who consult an oculist suffer from head pain[30]. Ocular causes of headache may be considered from two angles: first, pathological conditions and diseases of the ocular tissues themselves, such as acute glaucoma, iritis, retrobulbar neuritis, herpes zoster, acute infections of the lid and orbit, and supra-orbital neuralgia; and second, refraction errors and muscle imbalance. By far the greater number of ocular headaches are caused by the latter.

Because of obvious pathologic changes, typical symptoms, and pain on the affected side, acute glaucoma, acute iritis, acute infections of the lid and orbit, and retrobulbar neuritis are readily recognized when they cause headache. Herpes zoster opthalmicus may be difficult to diagnose in the preeruptive stage. Supra-orbital neuralgia is usually aggravated by cold and relieved by heat; the diagnosis is established when pain radiates along the distribution of the supra-orbital nerve in the absence of ocular or sinus abnormality.

Astigmatism, hyperopia, presbyopia, and less frequently myopia produce headache. Astigmatism is by far the most common offender, being the cause of ocular headache in 75 per cent of young people[31].

The disturbances of ocular motility most likely to cause headache are heterophoria and strabismus[32]. Muscular strain is a perfectly adequate stimulus for the production of pain. The responsible mechanism in these instances is probably referred pain through the distribution of the fifth cranial nerve and is analogous to visceral pain elsewhere in the body. Sympathetic stimulation spreads to the periarterial sympathetic system, causing secondary vasomotor reaction, which aggravates the original headache. Pain arising from stimulation of the third and fourth nerves probably follows the same pathways. It should be recalled that of the twelve pairs of cranial nerves, six have some connection with the eye; it is not surprising that ocular abnormalities may contribute to the production of headache[30].

"Eyestrain" headaches usually appear after using the eyes for several hours and are most frequent in the middle of the day or late afternoon. Extensive use of the eyes on the preceding night, may, however, be followed by morning headache. Sleep and rest of the eyes alleviate the discomfort. Headache caused by eyestrain is usually accompanied by other symptoms, such as blurring, burning, lacrimation, and even dizziness, nausea, and vomiting. The site of pain in ocular headache is not diagnostic, since any part of the head may be the site of the pain[33].

2. **Nasal and sinus headache.**—Wolff and his coworkers[34] have demonstrated that the mucosa of the nose, septum, orifices of the paranasal sinuses, turbinates, and mucosal lining of the sinuses are sensitive in varying degrees to painful faradic, mechanical, and chemical stimulation. The sensory nerve supply of the nose is derived from the first and second divisions of the fifth cranial nerve and the sphenopalatine ganglion. Stimulation of any of the pain-sensitive areas usually evokes pain along these neural pathways to the head.

Headaches of nasal and/or sinus origin have been adequately grouped by Moore[35] into: 1) those caused by nasal obstruction without infection, 2) those caused by sinus infection, 3) those caused by tumors, and 4) those caused by neuralgia.

(1) **Headaches associated with nasal obstruction without infection** include those caused by tumors, enlarged turbinates, deviated septum, and nasal allergy. They incite headache by pressure on the mucosa or congestion and obstruction of the sinus orifices. The "frontal vacuum headache of Sluder" is a prime example of this group. Obstruction of the nasofrontal duct with absorption of the air from the frontal sinus allows the swollen mucous membranes to contact each other. The pain is localized over the involved sinus and is not produced by a vacuum. The diagnosis is confirmed when disappearance of the headache follows relief of obstruction of the nasofrontal duct and shrinking of the mucosa of the involved sinus.

(2) **Headaches caused by sinus infection** are relatively rare[35]. Characteristically, the pain of acute sinusitis is most severe in the middle of the day, with improvement in the evening, due to spontaneous drainage. It tends to recur daily and is aggravated by factors which increase venous pressure, such as low head position, coughing, straining, and by states which cause engorgement of the mucosa, such as anxiety, alcohol, menstruation, and cold air[36,34]. Frontal sinus pain is referred to the forehead over the affected side, maxillary sinus pain over the homolateral cheek and teeth; sphenoidal and posterior ethmoidal sinusitis may be felt as headache in the vertex or in the temporal or occipital regions. Anterior ethmoiditis causes pain in and around the eyes[37,38,35]. The diagnosis of infectious sinusitis is readily made by an adequate otorhinolaryngologic survey and the etiology of the headache is established with removal of the infectious process.

Williams[39] has recently described typical deeply referred "sinus headache" unassociated with evidence of sinusitis or primary nasal allergy (hyperplastic sinusitis). These patients were found to have tender regions in the muscles of the head, neck, and shoulder, where pressure produced typical "sinus pain." The deep referred pain of hyperplastic sinusitis does not resond to allergic management and is exacerbated by physical irritants, such as chilling of cutaneous surfaces, changes in temperature and atmospheric pressure, and emotional disturbances. Several muscles may be "trigger" zones, but the affected muscles are always unilateral. Attacks are precipitated by emotional and physical stimuli and can be abolished by procaine infiltration of the tender muscle regions. The pain is not ameliorated by salicylates. Treatment with niacin has been very satisfactory: 100 mg. are injected daily until symptoms subside, then 100 mg. are administered orally in two doses for two to five months, followed by 100 mg. orally three times a week as a maintenance dose. Gratifying results were obtained by this regimen in fifty-four out of seventy-two patients.

(3) **Tumors** (benign and malignant) of the nose and sinus produce headache when they cause obstruction, pressure or infection of the sensitive areas.

(4) **Nasal headaches caused by neuralgia** are associated with sphenopalatine neuralgia and nasociliary neuralgia. Sphenopalatine neuralgia, so aptly described by Sluder[40] as "lower half headache" because it does not involve the upper half of the head, is characterized by pain radiating from the root of the nose, over the maxilla and backward to the mastoid, the occiput and into the neck and shoulder. It is most severe just posterior to the tip of the mastoid. Diagnosis is established

and subsidence of headache is obtained by cocainizing the sphenopalatine ganglion. Cocainization of the middle is efficacious in nasociliary neuralgia. Large doses of vitamin B_1 have also proved useful.

3. **Cervical arthritis** — Holbrook[41] and Hartsock[42] have reported that arthritis of the cervical spine ranks with ocular and migraine headaches in frequency in the osteo-arthritic age group. The clinical features closely resemble myalgic headache. Frequently, crepitus is felt on passive motion of the neck. Lateral flexion of the head tends to increase the pain, and extending the head sometimes affords comfort. Roentgenogram of the cervical spines constitutes positive evidence. Treatment consists in management of the underlying osteo-arthritis or osteo-arthrosis. Salicylates, massage, and diathermy are helpful; some have reported considerable success following injection with procaine of localized areas of tenderness in the cervical muscles[43].

4. **Periodical occipital headache** — Recently, Pelner[29] has called attention to a headache located chiefly in the occipital region, accompanied by tense sensation in the posterior cervical muscles. This headache, he feels, is related to histamine or acetylcholine sensitization. The attacks are somewhat similar to those seen with fibrositis of the cervical muscles and myalgic types of headaches (see II 2 and 3). Pelner has achieved good results by oral desensitization with prostigmin, which, because of its ability to prolong the action of acetylcholine by binding cholinesterase, gives the patients increasingly large acetylcholine shocks. Insensitivity to acetylcholine and histamine soon develops. An advantage of this desensitization method is that it is oral.

III. Traction and displacement of the large veins and their dura

1. **Headache from lumbar puncture** — Kunkle, Ray, and Wolff[45] have shown that increased intracranial pressure is neither a prime nor essential factor in the occurrence of headache. It was formerly thought that increased intracranial pressure produced headache by causing tension on the dura and pressure on the brain. These workers have raised the cerebrospinal fluid pressure as high as 800 millimeters of water in normal subjects without inducing headache. It has been demonstrated that headache following lumbar puncture and drainage may be produced by withdrawal of 10 per cent of the estimated total spinal fluid volume, or 20 cc. With return of this volume and the original pressure, the headache vanishes. Traction is increased to the point of pain-stimulation because with loss of cerebrospinal fluid, the relative net weight of the brain is increased, due to diminished buoyancy of the fluid medium. Further increase in brain weight, and therefore in traction, occurs as a result of associated intracranial venous dilatation. This vasodilatation is brought about by failing extramural supporting action of the cerebrospinal fluid pressure on the venous walls and is not due to compression of the basilar venous plexus by the sagging brain, as was suggested by MacRobert[49]. The usual variety of post-puncture headache is secondary to a prolonged leakage of fluid through the needle-hole in the relatively inelastic dura.

2. **Headache of brain tumor** — This has long been attributed to increased intracranial pressure. This concept is no longer valid[46]. Brain tumor headache is produced by traction upon intracranial pain-sensitive structures. There are two types of traction which operate singularly or in combination: local traction of the tumor upon adjacent structures and/or distant traction by extensive displacement of the brain, either directly by the tumor or by ventricular obstruction.

The headache of brain tumor is of a deep, aching, steady, dull nature, seldom throbbing, and usually intermittent. It is accentuated by factors which increase intracranial pressure, such as coughing, sneezing, and straining. The pain overlies the tumor in about one-third of all cases. It is the first symptom in about one-third of supratentorial and four-fifths of infratentorial tumors and is almost always present with tumors of the posterior fossa. Absence of headache in cerebral tumor may be explained by the fact that slow growth gives the brain time for mechanical adaptation; tumors of the frontal lobe may fail to cause headache because of associated sensorial defects; and lastly, extension to the skull may prevent headache by relieving displacement.

The possibility of brain tumor should always be considered in any case of headache. Complete physical examination, neurologic examination, including visual field studies, and possibly cerebral pneumography, may be required to confirm or exclude cerebral tumor as the cause of headache.

3. **Subdural hematoma** — Chronic subdural hematoma is actually a slowly expanding cystic lesion resulting from rupture of

veins coursing from the cortex to the dural sinuses during injury to the head. Associated symptoms are headache, listlessness, weakness of the abducens, corticofacial paralysis, and weakness of an arm or leg. The onset of headache following injury, with one or more of the characteristic symptoms, is indication for a neurologic examination and verification of the diagnosis.

4. **Intracranial aneurysms** — Aneurysm of the circle of Willis is accompanied by severe frontal headache and transient extra-ocular paralysis. Headache and involvement of the second and third cranial nerves are suggestive of intracranial aneurysm. Ruptured aneurysm is characterized by sudden syncope, with headache of severe intensity, and bloody spinal fluid.

5. **Post-traumatic headache syndrome** — A frequent sequella of craniocerebral injury is so-called post-traumatic or post-concussion headache syndrome. Prominent symptoms include intermittent headaches, vertigo, irritability, defective power of memory and concentration, insomnia, occasional nausea, and palpitations. The most frequent complaint, however, is headache aggravated by straining or stooping. The syndrome is believed to be due to adhesions which have developed between the arachnoid and the dura following organization of a small subdural hemorrhage[47]. Fay[48], however, has demonstrated areas of cerebral atrophy in these patients, which may be a factor in the etiology. Penfield[47] believes that relief obtained following injection of air into the subarachnoid space indicates that disruption of adhesions between the dura and arachnoid has been accomplished. Cure of the headache is often effected by this procedure.

6. **Hypertensive encephalopathy** — Headache associated with hypertensive encephalopathy is probably precipitated by focal edema of the brain, causing traction and displacement of veins in the great venous sinuses. Knowledge concerning hypertensive encephalopathy and its treatment is still in a very rudimentary state. Some patients with this condition have increased spinal fluid pressure and are benefited by spinal puncture. Curiously enough, however, elevation of pressure of the spinal fluid in such patients does not exacerbate the headache.

IV. **Miscellaneous**

1. **Psychogenic headache** — Headaches of functional origin comprise approximately 50 per cent of all headaches encountered[49,50]. They are frequently very severe, usually being described in exaggerated terms, such as "like a nail being driven into the skull", "a tight band around the head", "intense pressure on top of the head", "splitting", "boring", and so on. Sometimes they are diffuse and poorly localized, shifting from one site to another; they may be constant or intermittent. Their evanescent nature from the standpoint of severity, frequency, and location is described by Curran's statement[51] that the characteristic features of psychiatric headache is that it is not characteristic, except perhaps of the personality of the patient. Wolff[34] believes that muscular tension in the neck and scalp is largely responsible for location of the pain in the head.

A careful history usually leads to a strongly inferential diagnosis, but confirmation follows elimination of all physical causes of headache. The aid of a good psychiatrist is essential. It should always be borne in mind, however, that headaches based upon organic disease may develop in a patient with strong neuropsychiatric tendencies.

2. **Gynecologic headache** — At least three types of headache are associated with gynecologic abnormalities:

(1) **Headache associated with premenstrual tension** has recently been explained on the basis of sodium ion retention and water retention) secondary to high blood estrogen levels occasioned by an elevated renal threshold for estrogens. These patients complain of increased premenstrual weight gain, increased nervous tension, headache, and dizziness. Salt restriction during the ten days preceding menstruation has proved of value, as well as administration of progesterone or chorionic gonadotropins to increase the output of normal corpus luteum.

(2) **Headaches associated with the menopause** are more frequently related to organic disease, especially hypertension, than to gynecologic abnormality. True menopausal headaches are ascribed to overactivity of the anterior lobe or the pituitary gland. Persistent causes have been combatted by irradiation of the pituitary gland; most cases respond readily to estrogen therapy.

(3) **Headaches associated with cyclic menustration** occur just before, during, or after menstruation. There is little reason to incriminate the ovaries, since menstruation is cyclic; a psychosomatic basis is more reason-

able. The use of thyroid extract, salt restriction, and extracts of corpus luteum have been advocated.

3. **Arteritis** — Headache associated with temporal artery disease is a rare syndrome known as **temporal arteritis.** This disease is apparently a phase of periarteritis nodosum or is very similar to it. It occurs primarily in elderly women and is accompanied by fever, leukocytosis, and a severe lancinating, throbbing noctural headache on the affected side. On careful palpation, nodules can be felt along the course of the temporal artery. Treatment is surgical.

4. **Constipation** — Headache is commonly associated with gastrointestinal disturbance; it is usually attributed to toxemia directly or as a referred pain. Constipation is the commonest cause. Wilbur and French[53] describe it as frontal or temporal, throbbing, and exaggerated by sudden movements. Relief is obtained by bowel movement. Cabot[54] states that a remarkable feature is its swift disappearance after defecation and adds that this phenomenon is difficult to reconcile with any chemical theory regarding the origin of such pain.

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From the foregoing it would appear that the symptom headache may be precipitated by a variety of causes. Some cases are susceptible to adequate analysis, and therapeutic relief may be obtained. In too many instances even the most careful study fails to elucidate the causal agent. The repeated use of narcotics to relieve symptoms is to be decried.

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Recent Public Health Trends in Dentistry*

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IT IS with pleasure that I come to you today representing the field of public health dentistry. In my estimation, the terms are inseparable—our services are comparable and we know that the health of our future citizens depends not on just one phase of health, but every aspect. Thus the underlying basis for our common ground lies with the need of the people—better and more adequate health programs. The greatest social and economic problem before our nation today lies in the urge that we have to bring what we may call the fruits of civilization within the reach of every individual in the population.

We have learned to grow things in profusion, to build things on a colossal scale, to produce unnumbered comforts of life; but we have failed to bring these things within the reach of the common man. Briefly, we can produce magnificently, but we are not able to distribute equitably.

Among these fruits of civilization it is entirely proper to list health services and as a most important part of health service we must include dental health service—preventive dental health service. It is a well known and accepted fact that science and education are far in advance of our ability to apply what we know to the ills of a suffering humanity. This is especially true of dental health service.

There is a tremendous gap between what is known and actually what is done in this particular health service. The fruits of civilization as exemplified by the defective dental conditions of young men and women entering the armed services during the recent war reveals that dental science and practice have never been brought to a suffering humanity in the measures that we have the right to expect of any awakened country.

The underlying causes of dental disease are distributed everywhere throughout the population. They are as widespread as the common cold. Recent studies show that one half of the child population suffers from dental disease as early as the second year of life. Throughout the pre-school years, the number of children thus affected and the number of cavities per child rises rapidly until at the age of five years we find 90 per cent of the children affected, and about one half have at least six cavities with at least one tooth requiring extraction.

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* Read before the annual meeting of the Mississippi Dental Hygienist Association, Jackson, Mississippi, May 28, 1946.

Practically 100 per cent of the school population and 100 per cent of the adult population are affected by dental diseases. In spite of this widespread evidence of dental diseases, not more than 25 per cent of the population are receiving systematic and sufficient dental care. Yet every person is entitled to receive his just inheritance of knowledge in dental practice. But dentistry for adults cannot be provided on a conservative and economic basis until prevention of major disease and impairment of the dental organs are accomplished through universal dental care of children.

We in the field of public health and other health organizations recognize that a preventive dental program is an integral part of our generalized public health functions. There is an increasing opinion among our high ranking public health officials that we assume our responsibility in more effective preventive dental measures. Many have expressed their agreement with the view of the American Dental Association that the problems can be solved ultimately by the timely care of children commencing at two and one-half or three years and continuing that care regularly thereafter. But the general public will have to be educated to do this. No one can go out and make people do it.

We hope that dentists in general practice will devote as much time to children as is necessary to meet the public health problems. Then the increased use of auxiliary personnel on timely care will come only when dental health education begins to make its power fully effective at some future time.

Hence, the trend is toward education, education of the young and old, through schools and communities. The problem of dental disease, because of its prevalence in the community and because, directly or indirectly, it is responsible for an incalculable amount of illness and loss of time from gainful occupation, it becomes both a social and economic problem. To bring it under control, community planning is necessary. In this respect it may be compared with certain other public health problems which have been brought under control in a large measure through eduation of the masses, such as malaria, tuberculosis and typhoid. Even though dental disease is not as spectacular in our mortality tables it is responsible for much early disablement and even death.

Surveys that have been made show that dental disease is not confined to any class, rich or poor, nor to any state or locality. The findings of these surveys and our experience with public health problems in the past lead us to believe that education of the public and community planning is the means by which improvement of these conditions may be brought about. When educational programs are set up, they must be flexible enough to allow for adjustment according to the social problems of the locality.

All children attend school in due course and almost every family in the community is represented in the school; so the school becomes the most logical and fruitful place to establish a community dental health education program. It is only through education that we can hope to make strides in advancement; and this is true in all lines of progress, including the effort to better the physical health of the race through preventive measures. The final goal of all teaching should be to make the child vocationally fit, socially acceptable and free of pathological conditions. The dental profession has a definite responsibility for its share in accomplishing this goal.

The child must be educated into a sustained desire to have good dental health and the habits and precautions necessary thereto. Dental care for every child is likely to become a fact when every child is demanding dental care. Thus education and service go hand in hand in creating a desire for sound teeth in the mind of every child in the community. Something must be done for that child in the classroom besides sending him to a dentist and having his teeth put in order—free—which is a valuable service, but something must be done that will affect his habits and attitudes toward pain resistance or expense resistance in later life. This is where the proper trained health educators come in. Their services are invaluable. Their function is to supplement the work of dental health and other personnel — not to compete with any or replace any.

If the child is educated into a sustained desire to have sound teeth and the habits and precautions necessary thereto, and choose his own dentist there will develop a sense of self-reliance and personal responsibility that will fortify him against the neglect of his health after he leaves school.

Our state boards of health and education have joined hands in initiating the use of professionally trained personnel in the field of public health education. Thus far, our state has three health educators working in Coahoma, Lee and Washington counties on a generalized program of health education. They have promoted the dental health education program chiefly through school superintendents, teachers, public health nurses and community groups. These have consisted of conferences, planning programs, radio, newspaper publicity, preparation of materials and other educational activity as needed. These functions are always in conjunction with the dental hygienist. These people serve as resource persons and coördinators of the dental health program as based on needs and resources of the community. They are in a position to stimulate, guide and get action from school authorities, parent and community groups since their training is both in fields of education and public health. It is possible to use such people as channels for getting the necessary information into school curricula that would be sound and practical rather than the traditional theory of past years. Without widespread education concerning the need for such corrections, parents and children will continue to be the victims of fear, ignorance, and misinformation. Dental defects will continue, will increase and will give rise to an incalculable amount of systematic illness, suffering and needless expense. We can no longer just leave so vital a health program to chance. There must be training—pre-service and inservice—with the teachers and parent groups if we ever hope for better dental health. Schools may demonstrate units of good teaching, but they are not enough, and however effective, their value is only temporary if the sciences do not become a part of a total enduring consciousness of the individual and the community. Dental health must become an integral part not only of general health education but of all education if another generation is not again to be dentally unfit. Health educators, serving with other auxiliary personnel will in time make progress in this phase of health through a concerted program of public education. This can only be made possible through the complete utilization of all community resources for protecting, improving and if necessary, augmenting these resources.

Trends are in evidence of finding some means of help in preventive dentistry, especially with fluorides. In Washington County the beginning of an experimental study was inaugurated this spring using topical applications of fluorine. We hope to see some interesting results from this study. We must recognize that repair programs of the present and past are good but you will agree that *preventive* programs are better. Effective, extensive, thorough-going research is one of the fundamental bases upon which a successful dental care program must rest. The other bases would include prevention, treatment and education. Education of the masses on sound practical methods for better dental health. If we attain this goal within a reasonable time, it will require professionally trained people in the field who can work and guide the people along the lines that science progresses.

It is my desire to stress the fact that mouth health conditions should receive attention in early childhood, that most of dental diseases are preventable if prevention is applied in the early years, and that prevention is strictly a matter of education — that the use of professionally trained health educators is a definite adjunct to the preventive dental program.

Dental care is the problem, not only of the dental profession, but of the medical profession, of educators, and of all persons who have the welfare of children at heart and the health of our future citizenry.

In summary, I have tried briefly to discuss the following four points.

1. Evaluation of the dental health problem.
2. The value of using professionally trained health education personnel in carrying on the dental program.
3. Public health adminstrators are becoming more conscious of their responsibility toward including a preventive dental program in their general public health program.
4. The promise of topical applications of fluorine in preventing, or delaying, the development of dental caries.

The Surgical Treatment of Biliary Disease*

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A SURVEY OF 131 cases of biliary disease who were subjected to surgery for relief has been made. These cases were admissions to Mercy Hospital-Street Memorial for a period of five years or from January 1, 1941 to December 31, 1945 inclusive.

The case histories of these admissions were broken down and studied for the following data which we thought might be of especial interest regarding patients with biliary disease who were subjected to surgery. Age, sex, race; the presence of jaundice; history of or the existence of pregnancy; positive history of typhoid; duration of symptoms; most common symptoms; findings with x-ray study; operative procedure; microscopic report of tissue removed as reported by the pathological department; mortality; and lastly the replies to the follow-up questionnaires.

It is our purpose that the discussion of this group of patients suffering with and treated surgically for biliary disease will be of interest and that we will bring out some points of special importance in assisting this type of patient to ultimate good health.

In Table No. 1 we show the incidence of age, race and sex in cholecystic disease with and without stones. The youngest patient was twenty and the oldest seventy-eight; the common age group being from thirty to sixty. The so-called middle age group of thirty-five to fifty-five being the most affected.

It is interesting to note that of the 131 cases there were 107 with calculi or 81.77 per cent. Of these 107 cases eighty-one were female, seventy-three white and eight colored. In the male group there were twenty-six white and no colored. Without calculus there were fifteen white females and two colored and seven white males and no colored males or a total of twenty-four.

Table No. 1—
Incidence according to age, sex and race.

AGE	WITH STONES					WITHOUT STONES				
	Male		Female		Total	Male		Female		Total
	W.	C.	W.	C.		W.	C.	W.	C.	
10 - 19	0	0	0	0	0	0	0	0	0	0
20 - 29	0	0	8	0	8	1	0	3	1	5
30 - 39	6	0	8	2	16	1	0	6	0	7
40 - 49	3	0	18	4	25	0	0	0	0	0
50 - 59	6	0	22	1	29	0	0	3	0	3
60 - 69	9	0	16	1	26	5	0	2	1	8
70 - 80	2	0	1	0	3	0	0	1	0	1
TOTAL	26	0	73	8	107	7	0	15	2	24
PER CENT	19		56	6	81	5		12	2	19

When a diagnosis of gallstones is made the patient should be appraised of the fact and surgery resorted to. Lahey states: "There are no harmless gallstones and if operation is deferred after the stones have been present for some time then acute infection will develop such as acute cholecystitis, the development of common duct stone with jaundice and even though a surgical procedure is done there may be a recurrence of stone formation in the ducts due to the chronically diseased state necessitating a secondary procedure."

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† From Surgical Section of the Street Clinic and Mercy Hospital-Street Memorial.

The presence of jaundice is an important sign in the severity of the biliary tract involvement. It increases the surgical risk to the patient and exacts considerable diagnostic acumen and surgical judgment from the attending surgeon as to the time of operation, the preoperative treatment and the extent of the proposed surgical procedure.

In taking a history it is necessary to try to determine if there has been jaundice and whether or not there has been chills, fever, clay stools, highly concentrated urine from bile or the presence of pain or colic. In this survey there were thirty-two cases of jaundice with calculus and one without calculus. Of these thirty-three cases there was a history of acute infection at the time of admission in fifteen cases with stones and four without stones, or a total of nineteen with chills and fever.

PREGNANCY

For many years it has been thought that pregnancy was an etiologic factor in the development of gallstones. Huggins reports that 75 per cent who came to operation for cholelithiasis have a history of pregnancy. Warren Cole in his study of a recent survey of gallbladder disease does not consider pregnancy a causative factor.

In this group who gave a history of pregnancy there were reported sixty-nine who had cholecystic disease, fifty-six with stones, thirteen without stones. In twenty-nine cases where there was no history of pregnancy, twenty-five had calculus and four did not. In this survey therefore it is suggestive that pregnancy has an indefinite influence on the development of calculus cholecystitis.

TYPHOID FEVER

A history of typhoid fever was obtained from twenty-three patients in this survey. It has been thought in the past that typhoid was a factor in gallbladder disease especially in regard to calculus formation but this is no longer the impression. In this series there were patients in whose early life time typhoid was a very prevalent disease and its presence might be a source of infection that precipitated calculus formation. The work of Branch is enlightening to the occurrence of typhoid infection in cases of cholecystitis. His work reveals the presence of typhoid to be a rare occurrence. There is no question about the presence of typhoid in the biliary tract during the course of typhoid fever but the development of cholecystic disease is evident in only one per cent during the course of the disease. It is in this group that the typhoid carrier develops and which is relieved by cholecystectomy in 70 per cent of cases according to Whipple.

Table No. 2

SYMPTOMS

	With Stones		Without Stones		Total
	Number	%	Number	%	
Epigastric pain	72	54.7	18	13.8	90
Colic	42	32	6	4.5	48
Jaundice	32	24	1	0.7	33
Nausea and vomiting	20	15.4	5	3.8	25
Chills and fever	15	11.4	4	3.0	19
Gaseous distention and belching	14	10.7	3	2.3	17
Weight loss	13	9.9	2	1.5	15
Indigestion	9	6.8	2	1.5	11
Constipation	9	6.1	0	0	8
Clay stools	6	4.5	0	0	6
Back and shoulder pain	5	3.8	0	0	5
Diarrhea	1	0.7	1	0.7	2
No digestive symptoms	1	0.7	0	0	1
Biliary fistula	1	0.7	0	0	1
Abdominal and general soreness	1	0.7	0	0	1
Gastrointestinal hemorrhage	1	0.7	0	0	1

There were no positive typhoid cultures in this group and no typhoid carriers. We still feel that in the future as in the past that the gallbladder patient should be interrogated as to having typhoid and as a matter of interest have the bile cultured for the typhoid group if the history is positive. From this observation it is doubtful that the history of typhoid has any definite bearing on biliary disease.

SYMPTOMS

The 131 cases in this survey were carefully studied for the symptoms as reported to the examining physician.

The symptoms of calculus cholecystitis are essentially the same with the exception of colicy pain. The calcula are incidental and aggravate the inflammatory state and they are associated with episodes of colic and pain. The longer the existence of cholecystitis the more probability that calculi will be present. McEvedy found calculi present in 80 per cent of cases of cholecystitis. McCarthy at the Mayo Clinic, studying 21,523 cases, found only 65 per cent of gallbladders contained stones. Johnson et al observed calculi in sixty cases in a series of eighty-six patients. In this reported series of 107 had calculi out of a total of 131 or a percentage of 81.7 per cent.

The chief symptoms elicited in order of their frequency are shown in Table No. 2. The most common as one would expect were pain either general or localized. The next most frequent were attacks of acute severe pain necessitating hypodermic for relief and this was classed as colic and is usually associated with calculi. It is interesting to note that nausea and vomiting are less frequent than would be expected and the usual complaint of belching and fullness was not common. Jaundice was reported in thirty-two cases of histories with calculi, and one without calculus. This important point is valuable in what might be found on opening the abdomen and be prepared for the probability of an exploratory excursion into the common duct.

A diagnosis of biliary disease can be made in the greater number of cases by a good history and the physical findings in the acute case, but to substantiate this in the chronic cases it is not unwise to subject these patients to x-ray investigation through the administration of the dye after the work of Graham and Cole, and fluoroscopic study of the structures adjacent to the biliary tract, the duodenum and stomach.

Of these 131 cases cholecystography and fluoroscopic study of the stomach and duodenum were resorted to in 104. Of these 104 cases that were given dye, positive findings, that is a pale or non-filling gallbladder was found in ninety-six cases or 94.1 per cent.

Table No. 3—

CHOLECYSTOGRAPHIC STUDIES

	Operative Findings			
	Calculus	Non-Calculus	Special	Total
Poor or non-functioning with dye in which stones were identified in thirty-six cases at x-ray	81	14	1	96
Definite stones without dye (Flat plate)	7	0		7
Special - Lipiodol injected into biliary sinus	1	0		1
Normal filling	5	3		8
Not studied with x-ray	13	6		19
TOTAL	107	23	1	131

Ninety-six cases were subjected to studies with dye and in thirty-six evidence of stones was noted with either a poor or non-filling gallbladder. The remaining sixty were diagnosed as non-functioning but at operation forty-five were found to contain stones not seen in the x-ray. Seven cases of calculi were diagnosed by flat plate alone, one case with chronic biliary fistulae was injected showing a calculus. In the non-functioning group there were eighty-one with stones which were observed at operation. Fourteen without stones were definitely diseased gallbladders.

From these findings we can assume that the diagnosis of cholecystic disease is made easier by the use of the dye method but in many cases stones may be present in a pale or non-filling gallbladder which will be revealed only at operation.

The results are in keeping with the experience of Johnson et al who reported 90 per cent positive findings in their series and Walters reported that 95 per cent of the findings at the Mayo Clinic are accurate. The findings being corroborated at operation.

Table No. 4—

PATHOLOGICAL FINDINGS AT OPERATION

	Jaundice	Non-Jaundice	Total
ACUTE CHOLECYSTITIS:			
A. With Stones	12	11	23
B. Without Stones	0	5	5
CHRONIC CHOLECYSTITIS:			
A. With Stones	23	70	93
B. Without Stones	2	9	11
MALIGNANT LESIONS	1	0	1

LABORATORY

Data concerning laboratory studies in this series reveals that blood counts were checked one or more times in each case. These counts were the same as in checking a chronic or acute condition, the more acute the disease, the higher the count and were of value in the diagnosis of gallbladder disease in this sense.

Urine examinations were made as routine and were only of value when there was evidence of bile found. Negative findings were acceptable when there were no signs of diabetes or nephritis. Blood chemistry studies were made in an appreciable number of cases in reference to sugar, cholesterol, urea nitrogen, plasma protein, chlorides, prothrombin, coagulation and bleeding. The icterus index was checked in twenty-two cases; Van den Bergh test was resorted to in four and cephalin flocculation in three. Sedimentation rate was observed in 50 per cent of the cases studied. Blood grouping was done in 90 per cent of all cases and suitable donor found, blood was administered during surgery.

SURGICAL TREATMENT

Gattell states, and with which we thoroughly agree from our own experience, that the best surgical results will be obtained in the calculus cases, and the poorest results in the non-calculus. In the latter group there are lesions secondary to the gallbladder dysfunction which are not relieved by surgery on the biliary tract.

In reference to surgical treatment of biliary lesions we refer to the statement of Lahey—that the surgical treatment of gallbladder disease has been described as being in three phases: first, the time when cholecytomy was the procedure of choice after removing any evident calculi. This type of treatment was placed in the discard after so many patients had a recurrence of their symptoms. Second, the general acceptance of cholecystectomy as the procedure of choice with great improvement in the end results, but in this group there were many cases in which stone in the common duct was overlooked producing symptoms and fatalities. Lastly, the present day attitude, the third era of biliary surgery, the opening and exploration of the common duct with drainage and also the dilation of the sphincter of Oddi which in many cases are quite spastic and prohibit a free internal flow of bile. It is with the last method of treatment that we wish to emphasize the need of a more thorough study and consideration of the common duct at the time of surgical procedure.

There are several well understood indications for investigation of the common duct. First of importance is when there has been or there is jaundice associated with attacks of colic. With the presence of stones in the gallbladder there is a strong probability that small calculi may have slipped into the common duct through the cystic duct with resulting symptoms, or in cases of long standing the infection in the common duct may have produced calculi independent of the gallbladder disease. Attention has been brought to the value of aspiration of bile contained in the common duct whether it be normal, golden or pathological white, cloudy or black bile containing flocculi. If these latter findings are found, look for trouble in the duct. We have often heard that it is not necessary to explore the common duct if it is not enlarged. This is true if there is no history of jaundice or colic, but with a positive history, a very small stone or sand may be removed from a non-dilated duct. Lahey remarks that one of the most reliable evidences for exploration of the common duct is the small contracted gallbladder whether or not stones can be identified or whether there is evidence of jaundice or not.

The surgical procedures in this survey are shown in table No. 5.

SURGICAL PROCEDURES

A .Total cholecystectomy		90 - 73%
B. Partial cholecystectomy		5 - 3.8
Cholecystostomy		32 - 24.4
Choledocholithotomy		25 - 19
Choledochostomy:		
With stones	25	
Without stones	33	58 - 44

ADDITIONAL SURGICAL PROCEDURES

Appendectomy	25 - 19%
Cholecystogastrostomy	1
Gastrorrhaphy	1
Cholecystoduodenostomy	1
Pyloroplasty	1
Herniotomy	1

Total cholecystectomy was done in ninety-six cases or 73 per cent in this series. Cholodochotomy was done in fifty-eight cases and in five a partial cholecystectomy. In fifty-eight cases or 44 per cent of the total number of procedures it was thought necessary to investigate the common duct for the above stated reasons. In twenty-five cases stones were found present and in the remaining thirty-three there was evidence of abnormal bile or abnormally tight sphincter suggestive to the passage of calculi and resulting inflammatory reaction. This is in keeping with the statement of Lahey that only half the common or hepatic ducts that are opened on suspicion may reveal calculi. However the surgeon will feel that he is assured that his patient has no obstruction being left behind and that convalescence will be smooth and recovery with excellent end results.

There may be some comment on the appearance in this table of thirty-two cholecystomies. This procedure was elected as the best to a certain group of patients, those in the old age group which would not tolerate extensive or prolonged surgery and those which had definite disease of the liver. However the present trend is towards total cholecystectomy and patients previously considered poor risks now tolerate cholecystectomy through better preoperative preparation and the administration of penicillin, blood plasma and amino acids.

Additional procedures were appendectomy in twenty-five cases, one each of cholecystogastrotomy, gastorrhaphy, cholecystoduodenostomy, pyloroplasty and herniotomy.

There were certain additional findings at operation under Table No. 6.

Findings	Calculus Series		Non-Calculus Series	
	Number	Per Cent	Number	Per Cent
Pericholecystic adhesions	52	32	11	8.4
Hepatitis	23	16	4	3
Pancreatitis	10	7.6	1	0.7
Enlarged portal glands	4	3	2	1.0
Cholangitis	3	2.2	0	0

Pericholecystic adhesions in fifty-two of the calculus group and eleven in the non-calculus. Hepatitis was evident in twenty-three of the calculus and four of the non-calculus. Pancreatitis was observed in ten of the calculus and one of the non-calculus. Enlarged portal glands in four of the calculus and two of the non-calculus. Cholangitis was present in three of the calculus and none of the non-calculus group. These associated findings unquestionably had some influence on the selection of cholecystomy as a surgical procedure in the thirty-two cases which were done.

The surgical procedures performed in this survey are familiar to all who do biliary surgery. It might be of interest to know that the type of incision used in these procedures was a subcostal oblique in seventy-three and a vertical incision either muscle splitting or para-rectus in forty-five. In thirteen no reference was made as to the type of incision made. We have a preference for the oblique incision as it gives adequate exposure, it falls together readily at closure without tension on the suture line as is often not the case in the vertical type. Postoperatively discomfort was decreased and there was no incidence of difficult closure or reported wound disruption.

A few points in reference to steps of the surgical technique observed in the description of the operations: In those cases in which marked distention of the gallbladder was observed, aspiration was done to facilitate exposure of the ducts. The cystic duct was identified by putting traction on the gallbladder until the duct could be definitely seen and dissected free from its serosal covering. The cystic artery was identified and these structures were ligated separately when possible. Before the cystic duct was clamped it was carefully noted that the common duct was free. The common duct was observed and the necessity of its exploration decided upon. In many cases the common duct was investigated by incision of the lumen of the open cystic duct into the common duct. This is a relatively safe path to follow and it gives excellent approach into the lumen of the common duct through which stone forceps or dilators may be introduced with facility.

In this survey the common ducts that were opened were all drained either by use of the T tube or a small catheter, the T tube was the choice in most cholodochostomies. These tubes were permitted to remain from ten days to eight weeks depending on the severity of the disease or the condition of the liver at operation and the appearance of the bile drainage postoperative.

PATHOLOGY

Eighty-nine tissues that were removed at operation were subjected to the pathological department for study; forty-two either had simple cholecystotomy or choledochotomy without tissue removal. The pathological diagnoses were as follows:

Acute cholecystitis	0
Subacute cholecystitis	9
Acute and chronic cholecystitis	13
Subacute and chronic	5
Chronic cholecystitis	73
Acute suppurative cholecystitis	2
Chronic cholecystitis with hydrops	2
Lymphadenitis chronic hyperplastic	4
Lymphadenitis, Suppurative	1
Empyema of gallbladder	2
Chronic cholecystitis with calcareous degeneration	1
Gangrene of gallbladder	2
Malignancy	1
Gangrene of gallbladder with perforation	2

It was interesting to note that there was no occurrence of acute cholecystitis alone in the pathological study, but acute cholecystitis was noted superimposed on chronic in cases whose histories gave evidence of onset being of more or less recent date. These were the only cases that were operated on at admission as being in emergency state, of which number there were nine.

This brings up the point of time for surgery in these acute cases as many of the surgical cases coming in are diagnosed as acute cholecystitis. The present day tendency is to operate on acute gallbladders in which symptoms have not been in evidence more than forty-eight to seventy-two hours, after that time if the initial symptoms are subsiding then they are treated as interval operations. Gangrene with perforation may occur which is due usually to stone in the cystic duct. If there is a perforation the opening is usually closed by the adjacent structures relieving the danger of peritonitis. In a series reported by Walters at the Mayo Clinic there was no single incident of peritonitis following a perforation, however death from perforation and peritonitis has occurred in our experience.

The cases reported by Heuer in 1937 in which 153 cases were operated in the acute stage with a mortality of 3.5 per cent is not as great as formerly anticipated. There were nine cases in this series operated in the acute stage. However most of the cases in our series were stricken with their acute attacks at home and usually arrived at the hospital several days after the onset. They were permitted to cool off and x-ray and diagnostic study made to verify the clinical symptoms and a so-called interval operation being done. There were seventy-three cases in which the diagnosis was chronic cholecystitis with a history of symptoms dating for months to twenty-five years. It has been our policy to handle these cases in a conservative way if they have had their attacks several days previously. If the symptoms and physical signs are favorable as to the remission of the acute state, they are permitted to become quiescent and are then prepared for selective surgery. In this series our operative findings were evident that no serious complication had developed because of this delay. There were five cases in which there was some evidence of gangrene of the gallbladder; two with perforation due to calculi with localized abscess. These cases all were admitted forty-eight to seventy-two hours after the onset and were permitted to become afebrile and for all acute symptoms to subside.

Follow-up results were requested from 131 patients, 107 in the calculus and twenty-four in the noncalculus. The period of observation following discharge was one to five years. The following table shows replies as received from these patients.

Table No. 8 FOLLOW-UP

	Calculus	Per Cent	Non-Calculus	Per Cent	Total	Per Cent
Cured	75	57.2	10	7.6	65	64.8
Improved	15	11.4	8	6.1	23	17.5
No follow-up	13	9.9	5	3.8	18	13.7
Died institutional	3	2.3	1	0.7	4	3.0
Dien non-institutional	1	0.7	0	0	1	0.7

The results obtained in this survey of 131 cases of biliary disease who were treated surgically were as follows:

In the calculus group 57 per cent were cured and 11 per cent improved. In the noncalculus group there were 7 per cent cured and 6 per cent improved.

Eighty-five patients or 64.8 per cent reported they were cured, seventy-five of these being in the calculus group. Twenty-three reported that they were improved or 17.5 per cent; fifteen with stones and eight without. Eighteen or 13.7 per cent did not reply at all to the questionnaire.

These findings show that the best results were obtained in those cases which had definite pathology associated with calculi.

There were five deaths in this survey, four were institutional occurring from seventy-two hours to ten days postoperative.

Case No. 1—White, male, age 75, had cholecystectomy for stones, associated with hepatitis. Cause of death, chronic nephritis.

Case No. 2—White, female, age 55, had cholodochostomy for stone. Liver death. Postmortem showed advanced liver disease.

Case No. 3—White, female, age 55; cholecystomy for hepatitis, cholangitis, pancreatitis. Died so-called liver death. Postmortem showed advanced liver disease.

Case No. 4—White, female, age 75; cholecystectomy with choledochostomy for stones. Cause of death, pancreatitis, hepatitis. Liver death.

The case known to have died after discharge from the hospital was a white, male, age 62, who had carcinoma of gallbladder associated with stones.

The percentage of death in 131 cases of surgery done on biliary tract was 3 per cent institutional and 0.7 per cent non-institutional, or a total mortality of 3.7 per cent.

CONCLUSIONS

The middle age is more prone to have gallbladder disease but it is observed in all adult ages.

The Negro race has gallbladder disease more than was thought for several years. However gallbladder disease is extremely rare in the colored male.

Pregnancy and typhoid are not important in reference to cholecystic disease.

A history of recurrent pain is the most common symptom of biliary disease.

Jaundice is usually evidence of a stone in the common duct.

Cholecystography is of definite diagnostic value being positive of pathology in 88 per cent of cases.

Careful preoperative evaluation of patients ability to stand surgery by laboratory study is indicated. Always be prepared to give routine transfusion during progress of surgery.

Cholecystostomy to be done only when cholecystectomy is not justified.

Cholecystectomy is the procedure of choice giving best end results, especially with the presence of calculi.

Choledochotomy should be done in a greater number of cases of biliary disease if permanent results are to be obtained.

Right subcostal incision is incision of choice.

The pathological studies give evidence that biliary disease is treated surgically more often in the chronic state.

The mortality was 3.7 per cent.

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DISCUSSION (Dr. H. A. Gamble) — I consider it a privilege to discuss Dr. Birchett's paper, "The Surgical Treatment of Biliary Diseases." First, because one seldom has an opportunity to discuss such an analysis of diseases of the biliary tract as has been presented by Dr. Birchett. Secondly, he has not only presented a clear-cut analysis of these cases as regards their incidence, age, race, the organs involved, diagnostic results, but more particularly, the ultimate results of operative procedures in these various cases.

I feel that we all have had a very similar experience, in fact it seems to be general in regard to the preponderance of biliary diseases associated with gallstones, and that however much we may agree or disagree upon the advisability of immediate or postponed operation, ultimately all cases of gallbladder disease associated with gallstones should be subjected to surgical treatment. The question of immediate operation or waiting until the infection has subsided is naturally one of surgical judgment and for which no law can be laid down, although Cattell of the Lahey Clinic postulates that all the acute cases should be subjected to cholecystectomy if seen early. Our own experience has been at variance with this dictum.

Should the subject present acute pain, low grade fever, a leukocytosis of from 12,000 to 14,000 with 70 to 75 per cent polynuclears, we feel that, and our experience has justified us in doing so, that these cases can be postponed until the infection has completely subsided. However, in a case with a markedly distended gallbladder, high fever, high leukocyte count, unquestionably immediate surgery is indicated.

I agree fully with Dr. Birchett that the presence of jaundice is an important sign as regards the severity of the biliary tract involvement and necessarily calls for the taking into consideration of other conditions besides those of inflammatory origin as causative factors. In fact, these cases after being put into as nearly normal physiologic condition as possible are never positively diagnosed unless subjected to operation. The jaundice can very possibly be due to not only inflammatory disease of the gallbladder, common duct stone, or cholangitis, but very frequently is associated with malignancy of the gall-bladder, ampulla of Vater or cancer of the head of the pancreas, and exploratory laparotomy is the only practical method of determining the causative factor.

Dr. Birchett is right in his assumption that typhoid fever at the present time has little to do with the causation of gallstones. However, I am convinced that they are practically always the result of some inflammatory condition of the gallbladder. We have found upon cultures and slides pure cultures of the amoeba histolytica, colon bacillus and, by no means last, Welch's bacilli. In fact, in all severely inflamed or gangrenous gallbladders this organism is practically always present. And this fact has a very important bearing in our hands upon the surgical treatment employed.

I will not go into Dr. Birchett's discussion of the symptomatology of the disease—sufficient to say that attacks of jaundice, epigastric pain, colic, gaseous distention, indigestion, pain particularly at the angle of the scapula on the right side and over the gallbladder region are all very suggestive if not positive indications of an inflammatory condition existing either in the gallbladder or the common duct.

Our experiences as regards the radiography of the gallbladder for cholecystic disease has not always been of definite diagnostic measure as apparently is the case with Dr. Birchett and many other clinics. We have not always been able from radiographic standpoint to diagnose gallstones which were present because of their being non opaque, and frequently we have found a gallbladder functioning well which upon operation would be found to contain numerous small cholesterin stones. Therefore, while we consider the x-ray as an important aid in diagnosing these conditions, we feel that all other symptoms should be taken into consideration in evaluating its importance.

Dr. Birchett's results are interesting. The fact that his best results were obtained in cases of gallbladder disease in which stones were present is the expression of most surgeons. Those cases in which the gallbladders with absence of stones were removed are more prone to give digestive disturbances afterward than are the ones associated with gallstones, possibly due to the fact that some other pathological lesion in the gastro-intestinal tract has been overlooked.

There are a few features in regard to the surgical management of gallbladder disease which we feel should be emphasized at all times. The first one is that in operating upon an acutely inflamed gallbladder one is dealing with a virulent type of infection and it cannot be handled from a surgical standpoint in the same way that the quiescent gallbladder is. Unquestionably in a quiescent gallbladder cholecystectomy is the operation of choice.

As regards the question of opening the common duct and searching for stones if the history of the case is suggestive of common duct stone, this should be invaribly done. However, unless such is the case we have been content to introduce a finger through the foramen of Winslow and palpate the common duct between thumb and forefinger from its beginning at the hepatic duct and on down through to the head of the pancreas. We have upon two occasions failed to find a stone in the common duct when it was present. However, the history of most cases was such as to place us on guard as regards the presence of stones and we were able to locate them. The routine exploration of the common duct does in our opinion increase the possibility of an unfavorable outcome and for that reason we do not employ it routinely in cases of cholecystectomy.

There is one operation to which Dr. Birchett does not refer and which we have found of great value in the treatment of the acutely inflamed and gangrenous gallbladder. That is the operation which was first advocated by Dr. Denegre Martin about 1914 in which he advocated the excision of a part of the wall of the gallbladder and the cauterization of the mucosal lining of that part remaining with carbolic acid. This procedure has been modified by Max Thorex in that he electrocoagulates the mucosal lining of the remainder after excision of a large proportion of the gallbladder wall. In aged patients and acute gangrenous inflammations this procedure has been of inestimable value in our hands, and associated with as yet, no deaths.

Another factor in the treatment of the acutely inflamed gallbladder as previously mentioned is the presence of anaerobic organisms. For this reason we have adopted the practice long advocated by one of us of packing the wound open with gauze saturated with an antiseptic solution. Prior to this time it had been my opinion that our deaths from gallbladder operations were invaribly due to infections of the abdominal wall with Welch's bacillus. Since we have adopted these various modifications—particularly the electrocoagulation of the wall of the gallbladder in the gangrenous type of disease and in the aged, and the packing of the wounds open and leaving them exposed to the air we have not lost a case during the period of approximately ten years.

Dr. Birchett should be congratulated upon his low mortality rate and particularly since an analysis of it shows that these patients were all of advanced age with marked changes in the liver, kidneys and pancreas.

The Mississippi Doctor

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The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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GOAL FOR LIVING

GUEST EDITORIAL

FELIX J. UNDERWOOD, M.D.

Medical and public health concepts are varied today. Once, we thought of public health as a protective force. Now we consider it a way of living to maintain good health. Hospitals are no longer for the seriously ill, but are "health centers" where people can receive the maximum of medical and nursing care in time to get the best results.

The objectives of medical science should always be to prevent as well as cure disease. As a result of sustained effort on the part of the medical profession, state and local health departments, and the people generally, diseases that maimed and destroyed in the years past are being brought under control. It is not enough to be merely free of disease; our people must be strong and well if we are to maintain our place in the forefront of progress.

Many of our social structures were shaken by the war. When peace is firmly established throughout the world, freedom from disease will become a reality. Present day knowledge and practices in disease prevention are being used to some extent everyday and almost everywhere.

The span of life will continue to increase. When our people in good physical condition attain the age of seventy years, we realize that the span of years for living is not fixed. The mere fact that death occurs frequently at certain ages proves nothing definite about either life or death. Smallpox, yellow fever, Bubonic Plaque, malaria, and other preventable diseases no longer take a heavy death toll among health minded people. Heart disease, automobile accidents, cancer and diabetes keep many of our people from attaining a satisfactory age in good health. Exposure of our physical equipment to unnecessary health hazards causes rapid and unnecessary deterioration. Diseases to which the human body is constantly exposed can be prevented. Scientific knowledge if promptly applied will overcome other diseases just as smallpox, typhoid, yellow fever, and other diseases. Complete eradication of diseases now common to man will come about in the years ahead if public health workers, practicing physicians, hospitals and the laymen study and work together.

Each citizen should decide upon a goal for life in terms of years and start early to reach that goal. To reach seventy-five years will require thought and consideration and will come about largely as a result of a knowledge of and the application of proper health habits and practices in our daily lives.

An adequate public health program is a state and community asset and blessing. The dollar cost of illness is expensive for the individual, the family, the community and the state. The cost of preventable illness to the people of Mississippi is greater than the proportionate cost of war. The rockets and atomic bombs of disease are just as much to be feared as those manufactured for war. Protecting the people against disease will be the concern of every good citizen of the state. Mississippians will not be satisfied not to stand at the head of the public health class in this country and abroad.

The Governor and the members of the present Legislature, senate and house, showed an understanding and appreciation of the public health needs of our state, also the welfare, educational and agricultural interests of our people, never before equalled by any state administration in Mississippi or any other state or country in the world. This bodes good for our future.

The people of the United States are becoming more hospital-minded, hence we have a shortage of rooms. Increased incomes has a direct relation to bed occupancy. We think the Government did a wise thing when it paid for the confinement of the wives of the private soldier. The wife was allowed to choose the doctor and hospital that she preferred. This service was carried through on a democratic schedule. It added much morale to the fighting forces, it helped the country doctor, and it served a great purpose in the field of obstetrics. The country people have been made to see the advantage of confinements in the hospital and many will not fail to use this service in the future. The funds that came from caring for these patients helped the income in the struggling country hospital.

We should like to know why it would not be practicable for all ex-service men to go to the doctor of their choice, to the hospital of their choice, and then let the government pay their bills as they did for the wife of the private or sergeant? This would promote democratic medicine, it would be more economical for the government, it would give the veteran better service, and it would serve a great social and economical purpose, generally speaking, in giving life to the small hospital especially and aiding in the decentralization of our population.

We wish to congratulate two sons of our Southland, one Alabama born, but both from Tennessee, and the American Medical Association on the outgoing and incoming presidents of this great association. Dr. H. H. Shoulders is now president of the American Medical Association, the greatest honor in the gift of the doctors of the United States. At the meeting in California Dr. Olin West has been selected as president-elect. Dr. West has served as secretary of the American Medical Association for more than twenty years and for many years Dr. Shoulders has been the able and diplomatic speaker of the house of delegates of this great body. The South is proud of these men. Tennessee and Nashville especially should be happy over this double honor and distinction.

The Mississippi State Hospital Association is to hold its annual session October 17-19, inclusive, at the Edgewater Gulf Hotel, Edgewater Park.

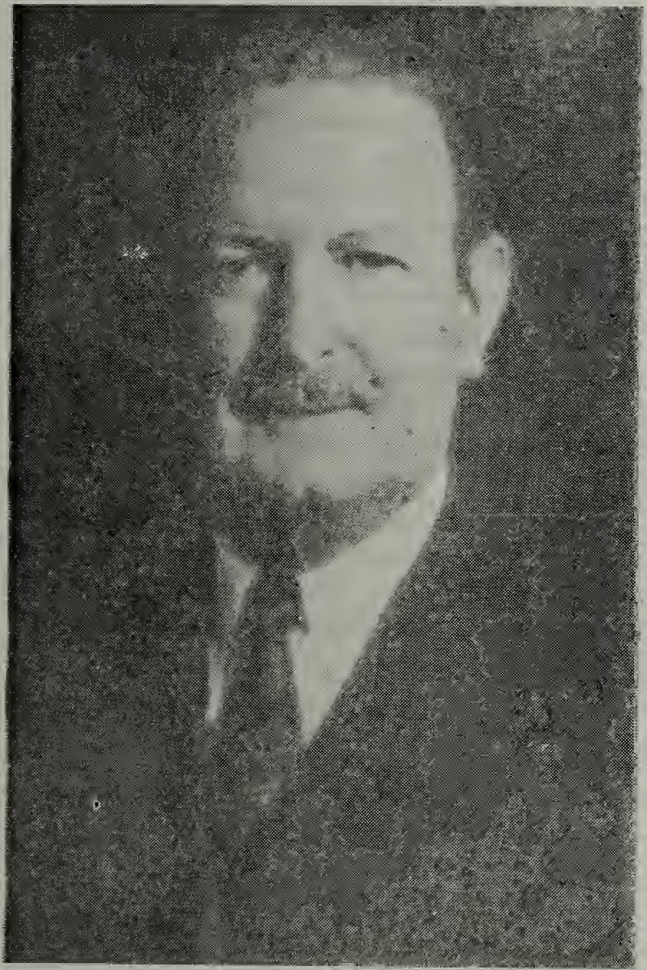
Mississippi is facing a new era in hospitals. Our state already has a goodly number of hospitals and they are quite well distributed. The large sum of money which will soon be available for hospitals in our state gives us the opportunity to have a fine system of hospitals to serve our people. The people of the nation are becoming more hospital minded, and they have learned that they can receive better treatment in a hospital at less cost if the illness is serious than they can in the home. The order of the day should be health centers for each or every two or three counties. The health center should include a hospital, a medical arts building for the doctors and dentists, a health building, nurses' home, and a hospital hotel with a nice café to take care of all on the center.

Make your plans to have a little outing on the coast and attend the State Hospital Association meeting. Make your reservation and mark the calendar for October 17-19.

Statisticians are indicating that the smaller the hospital the smaller the percentage of occupied beds. This may have been true in the past, it may be true now, but it probably will not remain true. The small hospitals as a rule are in the rural communities and oftentimes these people have not been able to go to a hospital on their limited income, many of them have not been hospital-minded, and oftentimes the very small hospitals are not always as well staffed as they really need to be. But even so they are rendering a wonderful service and they must be made better and kept on the upward march. It is also claimed that the small hospital can not be operated economically. This may be partially true, but is largely due to faulty education on the part of doctors and nurses, too much specialization, one doctor specializing on the left leg, another the right eye. One half of our population is in the rural communities and the small hospital has a big work to perform. Our population needs to be decentralized to a large degree and the small hospital must play an important part in leading the people back to nature and away from the atomic bomb.

News and Comment

THE PRESIDENT-ELECT



DR. PAUL G. GAMBLE

Born at Saltillo, in Lee County, Dr. Paul Gamble is the second son of a doctor, and spent his boyhood in a house that was the home of two other well-known mid-South physicians—Dr. E. M. Holder of Memphis, and his brother, Dr. Hugh Gamble of Greenville.

Dr. Gamble's preliminary education was received at McTyeire School in Tennessee, academic education as Vanderbilt University, and his medical training at the University of Texas School of Medicine and Tulane in New Orleans. He interned at Touro Infirmary, locating in 1911 in Greenville with his brother, where he has been an associate except for the interim in World War II, where he served as captain in the Medical Corps in surgery for thirty-five years. The firm is now known as Gamble Brothers and Archer.

Dr. Gamble's memberships include the Delta Medical Society (past-president), the American Medical Association, the American College of Surgeons, and the Southeastern Urological Association, and the Mississippi State Board of Health.

FROM DR. BRYAN

To All Mississippi Doctors:

To the best of my ability I have devoted a rather long life to the interest of organized medicine, especially to the Mississippi State Medical Association. Now I find myself a permanent invalid so that I can never attend our meetings again. Abhoring idleness as I do and still being desirous to serve my profession, I am trying to collect pictures of all Mississippi doctors with biographical data of each of them. When this collection is complete it will belong to the State Medical Association. Arrangements have been made with the State Department of Archives and History for the preservation and permanent display of these items. You have helped to make history — won't you help to preserve it? I know that you will. No one should be willing to do less than I am asking you to do. Please do this AT ONCE. You may turn photos and data over to the secretary of your local society or forward them to me at Amory, Miss. Please do not fail or refuse to help me in this effort to preserve the history of our profession in Mississippi.

Yours very truly,
G. S. Bryan.

IS THE BIOPSY OF NEOPLASMS DANGEROUS?

Mark E. Maun, M. D., and W. F. Dunning, Detroit, Mich. SURGERY, GYNECOLOGY AND OBSTETRICS, Vol. 82, 567-572, May 1946.

The authors review the literature concerning this question, and present the results of their experimental study in which hemogenous strains of inbred rats were inoculated with equal portions of the same transplanted tumors. Rats bearing transplanted fibrosarcoma, adenocarcinoma, and squamous cell carcinoma were operated upon and compared with an unoperated upon control series for length of survival after transplantation, and percentage in which metastases occurred.

"The average survival period of rats bearing transplanted fibrosarcoma was significantly prolonged by excision of the tumor nine days after transplantation but the percentage of lung and lymph node metastases was not altered."

"The average survival period of rats bearing transplanted adenocarcinoma was significantly prolonged by the removal of a considerable mass of the tumor 60 days after inoculation. The rats operated upon which survived the rats of the control series had a significantly higher percentage of lung metastases."

"A simple biopsy performed on rats bearing transplanted adenocarcinoma did not affect the average survival period of the rats or increase the percentage with lymph node and lung metastases."

"A simple biopsy of transplanted squamous cell cancer did not affect the average survival period of the rats or increase the percentage of metastases to the lymph nodes, lungs, and skeletons."

The authors conclude that the treatment of a neoplasm is facilitated by the removal or destruction of any quantity of the growth, and that a simple biopsy is not dangerous.

SECOND GAMBLE TO SERVE

Dr. Paul's brother, Dr. Hugh Gamble, has already served as president of the Mississippi State Medical Association. He served well. So will Dr. Paul Gamble. The Gamble brothers deserve much credit for the service they have rendered organized medicine. They believe that there is nothing common or of small importance in the practice of medicine and there is nothing in medicine too good for their beloved state. Their service in medicine has been second to none in our state. Our state association is proud to do honor to Dr. Paul Gamble.

RETURNED FROM MILITARY SERVICES

Dr. Boyd C. Edwards, Jackson; Dr. J. L. Hasie, DeKalb; Dr. N. C. House, Batesville; Mr. M. L. Pittman, Jr., Tylertown; Dr. M. E. McRae, Laurel.

DR. L. L. McDOUGAL PROMOTED

Dr. L. L. McDougal of Tupelo has received notification from the Army of his promotion to the rank of lieutenant colonel. He is now on terminal leave following discharge from active duty.

Dr. McDougal well deserves this promotion. Thoroughly trained in his profession, he has the spirit of the real doctor. He is practicing in Pediatrics and General Medicine.

DR. GOOGE IN CHINA

Dr. Turner Googe, native of Prentiss County, Miss., and brother of Dr. Paul Googe of Charleston, Miss., writes from Wuhu, China, where he is stationed with UNRRA as regional medical officer for Anhwei Province, rice bowl section of China with a population of 20,000,000 people.

Rush Infirmary-Clinic, Meridian, Miss., wishes to announce the association of Dr. Jetson P. Tatum and Dr. S. D. Wilson in the department of internal medicine and diagnosis.

Wallace P. Sheely, M.D., F.A.C.S., announces that he has resumed the practice of surgery after service in the Army Medical Corps. He is located at 309 Hatten Building, Gulfport, Miss.

Dr. R. E. Anderson announces that he has resumed practice in eye, ear, nose and throat following an illness. He is located at Standard Life Building, Jackson, Mississippi.

Dr. J. A. Colclough announces the limitation of his practice to surgery of the brain and nervous system, 1615 American Bank Building, 200 Carondelet Street, New Orleans, Louisiana.

Raymond J. Sherer, M. D., associate of the late Dr. Charles Ordway King, announces the continuation of the practice of dermatology at 414 Medical Arts Building, Birmingham, Alabama.

Dr. D. Harbert Anthony announces the association of Dr. Daniel F. Fisher in the practice of ophthalmology and otolaryngology, Suite 1718, Exchange Building, Memphis, Tennessee.

Dr. W. H. Brandon of Clarksdale is the able and active president of our state hospital association and Dr. Henry Boswell, who is known throughout the nation, is the president-elect.

DR. WM. M. COPPRIDGE

At the annual meeting of the Medical Society of the State of North Carolina held at Pinehurst last month, Dr. Wm. M. Coppridge, Durham, was elected and installed president.

Dr. Coppridge is the member of the Council of the Southern Medical Association from North Carolina. His address is 111 Corcoran Street, Durham, North Carolina.

ANNOUNCEMENTS

The Hospital over at Holly Springs is opening a training school for nurses. We are delighted to know this. You may expect well trained nurses from this hospital. Our state needs more nurses.

Remember October 17-19 for the state hospital meeting at the Edgewater Gulf Hotel, Gulfport. You may expect a mighty good meeting. It will be a nice time to combine pleasure with profit.

D. F. Fisher, M.D., is now associated with Dr. D. H. Anthony in the practice of eye, ear, nose and throat, 1718 Exchange Building, Memphis, Tennessee.

Carl D. Marsh, M.D., F.A.C.A., announces the opening of his office for the practice of allergy and dermatology, 616 Goodwyn Institute Building, Third and Madison, Memphis, Tennessee.

The staff of the Street Clinic and Mercy Hospital-Street Memorial announces the return from military service of Lucian Minor Ferris, M.D., who will be associated in internal medicine.

Drs. Moore and Mayer announce the return of Dr. A. Lynn Herring from military service and his association in the formation of the Moore Clinic, Baptist Hospital Annex, 899 Madison Avenue, Memphis, Tennessee.

FOR SALE: Complete hospital equipment for a twenty-bed hospital. Presently owned by a doctor who is inactive because of ill health. Equipment including an x-ray and complete operating room equipment, is in a municipally owned building in a town of 2,000 population. Hospital is a member of the Mississippi Hospital Association and is ready for immediate operation. Interested parties contact Mrs. D. B. Stevenson in Lumberton, Miss.

Book Review

CORNELL CONFERENCES ON THERAPY, D. Harry Gold, editor. 322 pp. Macmillan Company, New York, publishers. Price $3.25.

Maybe there is nothing new, but we have something different in medical literature *Cornell Conferences on Therapy,* Volume 1, is the most interesting and instructive periodical we have seen recently. It is unique. Dr. Harry Gold is managing editor and he is ably assisted by an editorial board.

The purpose of this book is to correlate pharmacology with related medical sciences, to interpret actions and uses of drugs from the viewpoint of important advances in medicine, and the placing of emphasis on the application of pharmacodynamics to therapeutics. The book aims at the correlation of basic physiological principles with pharmacodynamics and the pathological physiology of disease with the actions and uses of drugs.

This conference type, question and answer forum plan, is very instructive and with it comes stimulation of thought on the part of him who is listening or reading.

The doctor's bag, use and abuse of bed rest, hypnotics and sedatives, psychologic aspects of the treatment of pain, surgical measures for the relief of pain, treatment of heart failure, digitalis versus digitoxin, use of mercurial diuretics, treatment of subacute bacterial endocarditis, management of abdominal distention, the Rh factor in therapy, are among the subjects covered in this book. Neither surgeon nor practitioner can afford to be without it.

Deaths

DR. F. M. VAUGHAN

Dr. Francis Marion Vaughan, 75, died at a hospital in Columbus June 12, 1946.

Widely known as a planter, Dr. Vaughan served more than forty years as a member of the Lowndes County Democratic Executive Committee, chairman of it for several years, and he was a long-time director of the First Columbus National Bank.

He received his medical degree in 1891 from Louisville Medical College, after graduating at A. & M. College. He retired from practice some time ago.

Dr. Vaughan was born October 2, 1870, in Pickens County, Alabama, son of Francis Marion and Ella Murrah Vaughan, who were pioneer families. When the family moved to Lowndes County he attended Trinity School and later Franklin Academy there.

Dr. Vaughan acquired land on both sides of the Tombigbee River and became a leading planter of Lowndes County.

A Methodist for more than half a century, he had served actively on the board of stewards. He was also a Woodman and an Odd Fellow. His church membership was at Murrah Chapel, which was named for his ancestors.

Dr. Vaughan leaves his wife, Mrs. Daisy Boyd Vaughan; a son, F. M. Vaughan Jr.; a sister, Mrs. Laura Moody, Rosenburg, Texas; and four grandchildren.

MAJOR BOB FORD THOMPSON

Information was received in Columbia that Major Bob Ford Thompson, son of Dr. and Mrs. C. C. Thompson, Sr., of Columbia, died in Norway March 11. He was thirty-two years of age.

The telegram from the war department simply stated that Major Thompson died, and gave no details concerning his death. It did state, however, that a letter would follow.

Major Thompson finished high school at Webb School, Bellbuckle, Tenn., and completed medical training at Vanderbilt University. He entered at Yale and immediately upon his completion there in 1941, entered the service.

Besides his parents, Major Thompson is survived by one brother, Dr. Charles C. Thompson, Jr., of Columbia.

DR. JAMES LOPEZ

Dr. James O. Gorman Lopez, native of Biloxi and former Gulfport physician, died April 13 at Sanatorium, Miss. Dr. Lopez was born in Biloxi in 1912, receiving his early education there. He enrolled at Loyola University in 1931 and received his B.S. degree there in 1935. He attained national recognition as a football player on the Loyola team. He then returned to Biloxi, taught school and coached for two years, and did substitute work at the post office. Later he matriculated in the medical school at the University of Mississippi, and completed his medical course and received his degree from Tulane in June, 1941. He completed his internship at Baptist Hospital, in New Orleans a year later.

While in training at Baptist Hospital he endeavored to enlist as a flight surgeon at the start of World War II hostilities, but was not accepted because of physical disability.

He then moved to Gulfport, practiced with Dr. M. M. Snelling and later by himself. He built up a large practice on the Coast and distinguished himself in his profession.

He left the Coast two years ago to specialize in eye, ear, nose and throat in New Orleans at Charity Hospital, and after almost completing his work he was taken ill with virus pneumonia. After having recovered from two attacks he was taken ill again and moved to Sanatorium for treatment.

He leaves his wife, Mrs. Mary Aycock Lopez, of Franklin, La.; a son, James Clarence, 4-months old; his parents, Mr. and Mrs. Arnaud Lopez, Vicksburg; and a brother, Arnaud Lopez, Jr.

DR. F. M. SANDIFER

Funeral services for Dr. Fred Monroe Sandifer were held at the family residence on River Road, Greenwood, April 16.

Dr. Sandifer was born April 12, 1878, in Tylertown, Miss. He attended the public schools of Walthall County and later entered medical school at Tulane University, New Orleans, from which he was graduated in 1901. Early in his medical career he recognized the opportunities offered in Leflore County and made Greenwood his permanent home in 1906.

Dr. Sandifer's influence was soon felt in the community and he became not only an outstanding member of the medical profession but a leader in civic development of Greenwood. He was a charter member of the Kiwanis Club and recently received a certificate commemorating twenty-five years of active membership in this organization.

He was a man of sound judgment, sympathetic understanding and righteous convictions. His opinion was sought frequently on local problems and he gave freely of his time to public matters. His devotion to the medical profession and his unselfish service to the people of his community were his outstanding accomplishments. He was a member of the Presbyterian Church.

Dr. Sandifer was married to Lizzette Neilson of Columbus, who with their son, Dr. Fred Sandifer, Jr., of Greenwood and two daughters, Mrs. William Hicks of Indianola, Miss., and Mrs. Charles Buchanan, of Cocoa Beach, Fla., survives him.

DR. F. PRICE IVY

Dr. F. Price Ivy, retired physician and leader in northeast Mississippi livestock circles, died suddenly April 3 while attending a stockman's convention in Montgomery, Ala. He was sixty-seven.

Born in Palo Alto, Clay County, Dr. Ivy began practice in West Point in 1910. His medical education was obtained at Memphis Hosptal Medical College, where he graduated in 1904. He built the Ivy Hospital, which he operated until failing health induced him to sell the business in 1940. At that time he dropped most of his practice, and in later years had become interested in livestock development in the area.

He was elected president of the Northeast Mississippi Livestock Association when it was formed in 1936, and was re-elected each successive year. He also operated a farm near West Point.

Besides his wife, the former Miss Mary Binsore, he leaves three daughters, Miss Alva Earle Ivy and Mrs. Borey Moseley, both of West Point, and Mrs. David Chenault, Miami Beach, Fla.; two brothers, Wallace Ivy, Duncan, Okla., and Gates Ivy, West Point, and two grandchildren.

DR. A. E. KENNEDY

Dr. A. E. Kennedy, one of Simpson County's most prominent citizens and former mayor of Magee, died at his home in Magee after an illness of several months.

He had practiced medicine in Magee for the past forty years and was a member of the Central Medical Society, the Masons, the Scottish Rite, a Shriner, and an elder in the Magee Presbyterian Church.

He received his degree in medicine from the University of Tennessee.

He is survived by his wife, Mrs. Ola Yelverton Kennedy; two sons,, Heber Kennedy of Florence and Allen Kennedy of Mobile, Ala.; two daughters, Mrs. T. H. Price of Washington, D. C., and Mrs. Alex Gordon, Jr., of Magee; three brothers, Dr. C. A. Kennedy, of Memphis, Tenn.; S. D. Kennedy, of Lula; and Ethel Kennedy, Whitfield; seven sisters, Mrs. Monroe Stringer, Mrs. P. A. Yelverton, Mrs. Lula Yelverton, Mrs. R. L. Everett, Mrs. Virdie White, all of Magee; Mrs. Fate Glisson, Mize; and Mrs. Duncan Manor, Oak Grove, La. Four grandchildren also survive.

DR. W. O. ALLEN

Funeral services were held March 4 for Dr. W. O. Allen, sixty-three, who died after a long illness.

Originally trained as a pharmacist, Dr. Allen was graduated from the Tulane University medical school as a physician in 1920 and had practiced in Chunky since then.

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Public Health—Felix J. Underwood, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Pathology—R. M. Moore, Vicksburg, Miss.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

DERMATOLOGY

Archives of *Dermatology and Syphilology.* Vol. 53, No. 3, P. 292 and 294; March 1946.

A STUDY OF THE TYPES OF HYPERSENSITIVITY INDUCED BY PENICILLIN. Adolph Rostenberg, Jr., and Henry Welch, Am. J. M. Sc. 210: 158 (Aug.) 1945.

After finding an instance of hypersensitivity of the tuberculin type to crystalline penicillin sodium in a person who had had no previous contact with this drug, the authors made a study to determine the incidence of this type of sensitivity. It was found that 5 per cent of 144 persons tested with crystalline penicillin sodium exhibited a positive reaction of the tuberculin type despite the fact that none had had any prior contact with penicillin. It was postulated that there had been previous ingestion or inhalation of spores of Penicillium.

Rostenbery and Welch showed that the reactions obtained following intradermal injection of penicillin sodium fall into two categories. In the spontaneously sensitive persons all reactions were of the tuberculin type. In the persons originally without sensitivity but who became hypersensitive after repeated intradermal injections of penicillin sodium, the reactions, although eventually developing into a tuberculin type of hypersensitivity, were transiently wheal-like before this stage was reached.

BULLOUS DERMATITIS (DERMATITIS MEDICAMENTOSA) FROM PENICILLIN, George E. Morris and John G. Downing, J. A. M. A. 127-711 (March 24) 1945.

A man received 1,000,000 units of penicillin for a postoperative infection. Four days after the last injection the patient noted itching of the left hand and arm, and twenty-four hours later erythema and edema of the left hand, arm and left side of the body appeared. On the sixth day after penicillin had been injected there was tense pitting edema of the entire hand and forearm. These parts also showed erythema and multiple ruptured and unruptured bullae, filled with clear, thin, yellow fluid.

EPIDERMAL AND DERMAL SENSITIZATION EXISTING IN THE SAME INDIVIDUAL, Harry J. Templeton, J. A. M. A. 127:908 (April 7) 1945.

Cases of epidermal and dermal sensitization from drugs, plants, foods, and autogenous products are reported. Combined epidermal and dermal sensitization may occur from allergens reaching the skin from without or from within. Primary sensitization has nearly always occurred from allergens applied to the surface of the epidermis. The dermis may be sensitized to exogenous materials that have penetrated unchanged through the epidermis to reach the deeper layers, or the dermis may be sensitized to inflammatory products formed in the epidermis consisting of a union of the offending externally applied allergen and the tissue protein of the epidermal cells. The most frequent of these combined sensitizations are those resulting from tropical applications of drugs, particularly the sulfonamide compounds.

PEDIATRICS

FATAL CASE OF SODIUM NITRATE POISONING —Oosting, Melvin—Ohio State Medical Journal, 42:150 (February) 1946.

"The possible toxic effects of the nitrates have not hindered their widespread use in cardiovascular diseases. Fortunately, most patients tolerate the usual therapeutic doses relatively well, although cardiovascular collapse may occur from as little as 0.65 mg. of glyceryl trinitrite.

"Report of Case — A two-year-old white male was admitted to the emergency ward of the Miami Valley Hospital in complete circulatory collapse. The blood pressure could not be determined, the pulse was weak and thready, he appeared to have great air hunger, there was deep cyanosis, especially of the extremities and face. In spite of immediate administration of stimulants and oxygen, he died a few minutes after admission.

"A history of having been found in a semiconscious state was obtained. Further investigation indicated that the child might have swallowed a number of his grandmother's pills given her on prescription of her physician, for hypertension. These were later determined to be two-grain sodium nitrate tablets.

"Autopsy performed sixteen hours after death showed a generalized brownish cyanosis, a thymus gland weighing 50 gm., a quiescent apical caseous pulmonary tuberculosis, generalized abdominal lymphadenopathy, hypoplasia of adrenal glands and 20 enteric-coated partially digested tablets in the stomach and intestines. Chemical examination proved these to contain nitrites and a qualitative blood analysis showed a high nitrite content. A diagnosis of acute nitrite poisoning associated with a status thymicolymphaticus syndrome was made. Unfortunately no quantitative chemical analysis was made.

"This report is submitted to add to the few reported cases of nitrite poisoning and to call attention to the dangers associated with the use of both nitrites and nitrates. The accidental swallowing by children of pills prescribed for adults, with fatal consequences, is by no means uncommon.

"Possibly the associated finding of the status thymicolymphaticus syndrome in this case was a contributory factor in the fatality. However, the number of ingested nitrate tablets was sufficient to cause death.

"The treatment of cases of nitrite poisoning with its resulting methemoglobinemia and circulatory collapse is often not of the best. Usually epinephrine or some stimulant is given and oxygen therapy instituted. Methylene blue should be used to overcome the methemoglobinemia plus oxygen, and strychnine should be given to overcome the circulatory collapse."

COMMENT: The report of this fatal case of poisoning is given at this time as a warning to the physicians of our state, and through them to the people, to be a little more careful in where they place their poisons around the household. There is never a day passes that we do not have one or more calls from mothers in distress about their children having taken some poison that has been carelessly left around the house by the mother or some other member of the family.

State Board of Health

Felix J. Underwood, M.D.

SANITARY ENGINEERING ACTIVITIES

July 1, 1945 - May 1, 1946

by

H. A. KROEZE, Director

During the past year the activities of the Division of Sanitary Engineering have been marked by a notable increase of work in the field of water supply, sewage disposal and milk control and a broadening of the activities directed towards the control of malaria and typhus fever.

With the end of the war many communities have employed engineers to design needed improvements in the field of public water supply, sewage disposal and swimming pools. The division engineers have worked with the communities and engineers in developing these needs and advising with them as to the proper sanitary design. This work has also entailed the review and ultimate approval as to sanitary design of a number of plans and specifications for such improvements. During the past nine months the division has reviewed and approved 33 sets of plans and specifications covering the following proposed municipal improvements:

New water supply systems	5
Improvements to existing water supply systems	14
New sewerage systems and treatment plans	8
Improvements to existing sewerage systems	3
New Swimming Pools	3
Total	34

In the field of milk control work it has been necessary to add another district milk supervisor to the staff to assist a group of county health departments in northeast Mississippi in handling their milk control problems. The demand for milk in Mississippi continues unabated and new dairies and pasteurization plants are constantly developing. The State Board of Health is laying great stress on the consumption of safe milk in the state and doing everything possible within its means to insure the public adequate and safe milk supplies. This entails the promotion and proper control of pasteurization plants which is an important function of the division. During the past nine months plans for six new pasteurization plan to have been approved by the division.

The residual spraying program involving the spraying of houses with DDT for malaria control was broadened somewhat during the latter part of the malaria season. During 1945 a total of 61,375 homes were sprayed once and 25,953 were given a second spraying before the close of operations September 30, 1945. For 1946 this program has been greatly expanded. All substandard homes in the Delta, totaling approximately 90,000, will be sprayed twice this season. In addition to these homes the division is cooperating with five border counties to spray an additional 25,000 houses at least once. In this phase of the work the Boards of Supervisors will coöperate financially to spray the hill sections of Yazoo, Holmes, Carroll, Tallahatchie and Panola counties. Results last year indicated a great reduction of mosquitoes and flies in sprayed homes. The number of mosquitoes engorged with blood which was collected in sprayed and unsprayed houses during 1945 indicated the number of mosquitoes feeding on human blood was approximately 90 per cent greater among specimens from unsprayed areas than those collected in sprayed areas. Another interesting development was the fact that in only 4.1 per cent of the sprayed houses were Anopheles quadrimaculatus found, while 87.2 per cent of the unsprayed houses were found infested with these mosquitoes. Also the average number of quadrimaculatus per sprayed house was 0.07 as compared with an average of 18.03 per unsprayed house and 23.4 for each unsprayed outbuilding used as a check. As this is a malaria control program no check was made to determine the effect of DDT on flies but numerous reports were received from individuals indicating that flies were well controlled also. This should have an effect in lessening the diarrhea and dysentery rates in the Delta section of the state.

The typhus control program was expanded by the addition of using a 10 per cent DDT dust for the control of ectoparasites on rats. This work is carried on in all cities in which vent stoppage and rat eradication work is conducted concurrently. Results indicate DDT definitely lowers, almost to the vanishing point for a considerable period of time, the number of fleas found on rats where the rat runs and harborages are dusted with this insecticide. DDT has also been used in two cities where a considerable number of cases of typhus fever developed suddenly. The incriminated premises were heavily dusted and a week later city-wide rat eradication was conducted. In each case no new typhus fever cases developed after this work had been done. Vent stoppage work was extended to two more cities in the fall of 1945. During the fall and winter of 1945-1946 the division has coöperated with the State Plant Board and United States Fish and Wildlife Service in conducting rat eradication work in cities and towns in the state.

For the biennial period July 1, 1946 to June 30, 1948 the State Board of Health has been given an appropriation of $100,000 for malaria and typhus control work. It is proposed to spend this money on a matching basis with cities and counties in work directed toward the control of these diseases. While the sum of money is small in comparison with the problem, it is felt that with the utilization of old and new methods of control of these diseases and financial coöperation of cities and counties with the greatest problems, much good can be accomplished during the next two years.

In the field of rural sanitation the development of new ideas in the construction of pit privies and septic tanks by the division will enable our county health departments to secure added accomplishments of this type with less effort and time than formerly. Plans have been developed for the use of concrete blocks for pit linings of privies and for the construction of septic tanks. Also steel forms for the construction of the privy floor and riser have been developed. The division has interested a large number of concrete block manufacturers to go into the privy and septic tank construction field as an added outlet for their products. This relieves our county health departments of much detail work in this field in supervising the actual construction of these facilities and leaves to them only the responsibility of promoting their construction.

RECENT ADDITIONS TO THE LIBRARY

Physicians returning from the service have found the resources of the Medical Library of the State Board of Health extremely helpful in refreshing themselves on current and recent developments in the medical sciences. Books may be borrowed for 2-week periods; journals may be had also but for a much shorter period, depending upon the date of the journal. Among the recent additions of interest to physicians are the following:

American Public Health Association, *Diagnostic procedures and reagents,* 2d ed., 1945.
American Society for the Control of Cancer, *History of the American Society for the Control of Cancer,* 1913-1943.
Baker, Rachel, *The first woman doctor;* the story of Elizabeth Blackwell, M. D. Messner, 1944.
Baker, H. J., *Introduction to exceptional children.* Macmillan, 1944.
Bakwin, R. M. & Bakwin, H., *Psychological care during infancy and childhood.* Appleton-Century, 1942.
Boyd, M. F., *Preventive Medicine.* 7th ed., Saunders, 1945.
Byrd, O. E., *Health instruction yearbook,* 1945. Stanford univ. press.
Cannon, W. B., *The wisdom of the body.* rev. ed., Norton, 1939.
Chittenden, G. E., *Living with children.* Macmillan, 1945.
Clinics: *Symp. on Diagnosis and management of common pulmonary diseases,* Dec. 1945. *Problems in Geriatric medicine,* Feb. 1946.
Deutsch, Helene, *Psychology of women,* vol. 2: *Motherhood.* Grune & S., 1945.
Dwyer, S., *Oral Health.* Saunders, 1945.
Fulton, J. F., *Howell's Textbook of physiology,* 15th ed. Saunders, 1946.
Gelinas, Agnes, *Nursing and nursing education.* Commonwealth fund, 1946.
Gifford, S. R., *Textbook of ophthalmology.* 3d ed., Saunders, 1945.
Goldman, Franz, *Public medical care.* Columbia univ. press, 1945.
Gunn, S. M. & Platt, P. S., *Voluntary health agencies; an interpretative study.* Ronald press, 1945.
Hetherington, H. W., *Nursing in prevention and control of tuberculosis.* Putnam's, 1945.
Henry Phipps Institute, 30th report, 1942-1943. (excellent collection of reprints on tuberculosis.)
Hilleboe, H. E. and Morgan, R. H., *Mass radiography of the chest.* Yearbook pub., 1945.
Jackson, Chevalier, *Diseases of the nose, throat and ear.* Saunders, 1945.
Jordan, E. O. & Burrows, *Textbook of bacteriology.* 14th ed., Saunders, 1945.
Keys, T. E., *The history of surgical anesthesia.* Schuman's, 1945.
Luckiesh, M., *Light, vision and seeing.* Van Nostrand, 1944.
McGrath, B. J., *Nursing in commerce and industry.* Commonwealth fund, 1946.
McV. Hunt, J., *Personality and the behavior disorders.* 2 vols., Ronald pr., 1944.
Medical Clinics of N. America: *Symposium on pediatrics,* Jan., 1946. *Symposium on problems in postwar medicine,* March, 1946.
Menninger, K. A., *The human mind,* 3d ed. rev., Knopf, 1945.
Mitchell-Nelson, *Textbook of pediatrics,* 4th ed., Saunders, 1945.
Mustard, H. S., *Government in public health* (Med. & the changing order series, N.Y. Acad. of Med.). Commonwealth fd., 1945.
Rockefeller Foundation, Inter. Health Division, *Collected papers,* 2 vols., 1944.
Rockwood, L. D. and Ford, M.E.N., *Youth, marriage and parenthood.* Wiley, 1945.
Sigerist, H. E., ed., *Essays in the history of medicine,* presented to Prof. A. Castiglioni on his 70th birthday. Hopkins pr., 1944.
Smith, C. A., *The physiology of the newborn infant.* Thomas, 1945.
Smillie, W. G., *Preventive medicine and public health.* Macmillan, 1945.
Stern, B. J., *Medical services by government: local, state, and federal.* (studies of the N.Y. Acad. of Med. Com. on Med. & the Changing Order). Commonwealth fund, 1946.
Stern, B. J., *Medicine in industry.* Commonwealth fd., 1945.
Stieglitz, E. J., *A future for preventive medicine.* Commonwealth fd., 1945.
Yearbook publishers: *A yearbook of dentistry,* 1945.
Yearbook publishers: *A yearbook of pediatrics,* 1945.
Natl. Found. for Infantile Paralysis, Collected reprints of the grantees, 1944.

PREVALENCE OF COMMUNICABLE DISEASES IN MISSISSIPPI

	April 1946	April 1945	April Five-Yr. Average
Acute Poliomyelitis	1	1	1.8
Bacillary Dysentery	528	547	483.6
Dengue	0	0	.8
Diphtheria	17	29	22.4
Influenza	2411	3267	3258.2
Measles	4000	2308	3339.0
Meningococcus Meningitis	8	13	27.2
Other Forms Meningitis	6	0	5.4
Pellagra	141	206	235.2
Pneumonia	1345	1230	1367.8
Pulmonary Tuberculosis	185	108	136.8
Scarlet Fever	60	49	50.2
Smallpox	0	0	1.4
Tularemia	4	7	9.8
Typhoid Fever	10	5	7.6
Typhus Fever	9	10	6.0
Undulant Fever	8	7	4.6
Whooping Cough	632	935	1126.2

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—Dryden

Every man is a volume, if you know how to read him.

—Channing

Woman's Auxiliary

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FROM OUR *HYGEIA* CHAIRMAN

Dear Auxiliary Members:

As fourth vice-president of the Auxiliary to the Mississippi State Medical Association, I hope to have the coöperation of each doctor's wife in the state in increasing the number of subscribers to the *Hygeia* magazine.

Hygeia is a health magazine approved by the American Medical Association. Please understand that this is purely voluntary on your part. I am only asking that you be responsible for one yearly subscription at $1.25. Please send your name and address with your check (payable to *Hygeia*) directly to me. Please try to get the wives of the doctors in your town, or members of your auxiliary at your next meeting, to subscribe. We hope to have 200 new subscribers by the first of the year.

Most sincerely,

Mrs. W. H. Cleveland, *Hygeia*
Chairman, State Medical
Auxiliary.

MRS. H. G. WALDROP HOSTESS TO AUXILIARY

Tuesday afternoon, June 11, Mrs. H. G. Waldrop was joined by Mrs. L. L. McDougal, Mrs. S. L. Pharr, Mrs. R. B. Cunningham, Mrs. W. W. Strange, Mrs. W. H. Anderson in welcoming wives of physicians from twenty northeast Mississippi counties who attended the medical meeting in Booneville. Mrs. T. H. Rayburn of Pontotoc, president of the group, presided.

A delightful program of music and readings regaled the guests. Miss Rachel Ann Caver sang two popular songs, accompanied by Miss Sue Garrett at the piano.

Dr. J. K. Avent, of Grenada, president of the Mississippi State Medical Association, brought an inspirational message, while paying a tribute to the help doctors' wives are to the profession.

The climaxing feature of the afternoon was two vocal numbers by Miss Jean Donahue of Leland, accompanied by Miss Mary Bess McFatridge of Coldwater, and a humorous reading by Miss Marjorie Donnell of Blue Mountain. All three are students of Blue Mountain College.

Misses Rachel and Mary Waldrop assisted their mother in serving a dainty and tempting refreshment plate.

Mrs. Stanley A. Hill of Corinth, state president, Mrs. V. B. Philpot of Holly Springs, councilor to the Southern Medical Association, and Mrs. W. H. Cleveland of Tupelo, *Hygeia* chairman, brought reports from the various phases of endeavor of the organization.

Nature brings "Summer Complaint"

Yet Nature Offers the Remedy—

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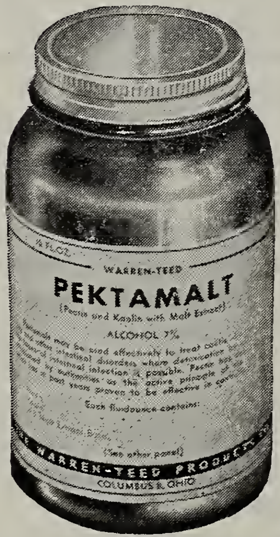

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The Physician's Cancer*

ALTON OCHSNER and PAUL DeCAPM, M.D.†
New Orleans, La.

UNDOUBTEDLY MANY have wondered what is implied by the title "The Physician's Cancer." We readily admit that there might be some justification for speculation concerning what is meant by such a designation. The physician's cancer is gastric carcinoma for two reasons, first, because physicians are frequently affected by these lesions and, second, and even more important, because in too many instances either the development of the malignancy or its inoperability is due to the failure of the physician to recognize the significance of existing gastric lesions. Livingston and Pack[1] aptly state "Gastric carcinoma is often considered a 'surgical disease' since the services of a surgeon are essential to a cure; yet as seen from the facts of the preceding paragraph, **the medical attendant, through his influence for or against operation, may play a role of even greater importance than that of the skilled surgeon.**" Since gastric mucosa is one of the most susceptible to malignant change of all the epithelial tissues of the body (gastric carcinoma occupying one of the first places among neoplasia), gastric carcinoma must be considered in all persons forty years or older who have gastric symptoms. Although cancer occurs more frequently in older persons, it must be recalled that many gastric carcinomas are found in young people and that youth does not in any way protect against malignant change in the highly susceptible gastric mucosa. In fact, almost 10 per cent of all gastric malignancies occur in individuals younger than forty years.

It has been estimated that in the United States approximately 30,000 persons die yearly of gastric carcinoma. Although many gastric carcinomas begin as malignant lesions, frequently the lesion is preventable in that the malignant change occurs in a pre-existing benign condition which has been allowed to exist sufficiently long for the malignant transformation to occur. We refer particularly to chronic gastric ulcers, polypi and chronic gastritis and it is this group that I should like to stress especially. I have repeatedly emphasized to undergraduate students that in order to cure gastric cancer, treatment is necessary when the diagnosis cannot be made. This statement seems paradoxical, but it means that the removal of a benign premalignant lesion will prevent the development of the carcinoma and also that the removal of a lesion which apparently is benign, but which upon microscopic examination proves to be malignant, will result in a cure. In neither instance is cancer diagnosed preoperatively.

It is quite unfortunate for the patient who develops gastric carcinoma that benign ulceration occurs both in the duodenum and in the stomach, because were it not for the fact that a benign ulceration could and does occur in the stomach as it does in the duodenum and that treatment of ulceration of the duodenum is almost entirely conservative, we are convinced that relatively few gastric carcinomas would be neglected and treated as supposed benign lesions, but rather that these patients would be subjected to early surgery at a time when resection of the malignant lesion would result in a cure. At the outset it must be emphasized that although ulceration of the duodenum is primarily a medical condition and with few exceptions should be treated conservatively unless there are complications which demand surgical intervention **gastric ulceration, although some will respond to conservative therapy, must be considered primarily as a surgical lesion.** It is our belief that no such case should be treated by an internist without sharing the responsibility with a surgeon from the beginning. We do not mean to imply that all gastric ulcers need be operated upon, but the possibility of malignancy already existing in all ulcerating lesions of the stomach or its developing in a diseased area in a mucosa which is susceptible to malignant change must be uppermost in the physician's mind, and, if conservative therapy is to be tried for a while, the patient should be examined very carefully every few weeks in the beginning and later, every few months, to be sure that malignant change does not occur. In the patient with gastric ulcer which is not on the greater curvature or in the prepyloric area, medical regimen may be tried with the understanding that it should be continued only if within 3 to 6 weeks there is complete disappearance of the ulcer symptomatically, roentgenographically and gastroscopically. When there is complete disappearance of the ulcer, the patient should be observed carefully and re-x-rayed every three to six months in order to determine that there is no change within the healed scar. If at any time there is any demonstrable change in the symptoms or in the x-ray appearance, a gastrectomy should be performed immediately. On the other hand, an ulcer on the greater curvature or in the prepyloric area should be considered malignant from the outset and should **not** be treated conservatively. Our experience agrees with that of Allen and Welch[2] that the incidence of carcinoma in ulcerating gastric lesions varies according to the site of the lesion. In their study they found the incidence of malignancy as follows: greater curvature lesions, 100 per cent; prepyloric, 65 per cent; anterior and posterior wall, 20 per cent; pyloric valve, 10 per cent and lesser curvature, 10 per cent. In a series of fifty-seven greater curvature lesions which we have observed only two were benign ulcers. A decrease in the size of the ulcer under conservative regimen does not in any way exclude the possibility of malignancy because we have repeatedly observed such a phenomenon in individuals with an ulcerating gastric carcinoma. In such an instance, the decrease in the size of the lucer is undoubtedly due to the filling of the crater with granulation tissue when an appropriate diet is instituted. If there is not complete disappearance of the ulcer within a three to six weeks period of conservative therapy, or if the ulcer is on the greater curvature, or in the prepyloric portion of the stomach, the patient should be subjected to a laparotomy immediately, because the possibility of the lesion already being malignant is so great that one is not justified in continuing conservative therapy.

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There is a great deal of controversy and no agreement among pathologists and surgeons concerning the relative incidence of malignant change in gastric ulcer. According to Sir James Walton[3] the incidence is high. He quotes Stewart, as follows, "Nine and one-half per cent of cases of chronic ulcer become carcinomatous and 17 per cent of cases of carcinoma originate in a chronic ulcer." The difficulty of making a correct diagnosis in these cases is illustrated by the experience of Allen and Welch[2]. In a series of 277 cases admitted to the Massachusetts General Hospital with an original diagnosis of gastric ulcer, 39 (14 per cent) proved to have cancer. In 175 with an original diagnosis of ulcer who were treated medically, 13 (7.4 per cent) had cancer, in 23 treated by gastrojejunostomy in which the postoperative diagnosis was ulcer, there were 4 (17 per cent) which were subsequently found to have cancer, and in 69 cases treated by resection in which the preoperative diagnosis was ulcer, 30 (43 per cent) proved to have cancer histologically.

The treatment of gastric carcinoma, therefore, consists either in the correction of premalignant lesions before they become carcinomatous or the early detection of gastric carcinoma and its complete removal. The successful curative therapy is dependent, either upon prevention or early diagnosis.

Unfortunately, there are no typical early symptoms and signs of gastric malignancy and usually the onset is insidious, producing few manifestations in the beginning which are likely to be disregarded either by the patient or, much too frequently, to be minimized by the physician. Dyspepsia occurring for the first time in a patient of forty years or older should immediately indicate a disturbance of serious consequence and careful examination should be made to rule out the possibility of a gastric malignancy. The short duration of symptoms is of great importance as regards the possibility of a malignant lesion of the stomach in contradistinction to a long history of gastric complaints in a person of similar age. This is well exemplified by the statistics of Allen and Welch in which it was shown that patients beyond the fifth decade of life with gastric symptoms less than one year have a five times greater possibility of having a malignancy than an ulcer, and, conversely, a patient with symptoms of more than five years has approximately five times a greater possibility of having an ulcer than a cancer. However, it must be reemphasized that the persistence of a gastric ulcer over many years does not exclude the possibility of malignancy. In fact, a persistent ulcerating lesion of the stomach. the mucosa of which is particularly susceptible to malignant change, is sufficient to consider the possible development of a malignancy in a benign ulcer. This is particularly true in the case in which the symptoms have changed within the past few months or a year. Even though neoplastic change has not occurred, we are thoroughly convinced that such a case should be subjected to gastrectomy because of the likelihood that subsequent malignant change might occur. In such a case cancer can be prevented.

At times the symptoms in gastric carcinoma are not referable to the stomach but consist of fatigue, weakness, and the principal finding is anemia. Not infrequently the patient will date his symptoms back to an antecedent infection, such as a cold or influenza several months previously from which he has not recovered as he normally should. Such a vague clinical picture justifies complete examination including fluroscopic examination of the stomach and gastric analysis as well as complete blood studies and examination of other parts of the body.

Fortunately, gastric lesions are detected with a relatively high percentage of accuracy by the roentgenologist when careful fluoroscopic and roentgenographic examinations are made. Unfortunately, however, too many times an ulcer, which simply means an excavation of the diseased area, is interpreted as being benign either by the roentgenologist or by the physician when such interpretation is not justified. It is probably **never** possible for the roentgenologist to determine that a gastric lesion is **not** malignant. On the other hand, he can in many cases with considerable certainty state that a lesion **is** malignant. The size of the ulceration is of importance in differentiating benign from malignant lesions as originally emphasized by MacCarty[4], who stated that lesions over two and a half centimeters in diameter are likely to be carcinomatous, whereas those less than two and a half centimeters in diameter are more likely to be benign. Allen and Welch[2] found a very low incidence of malignancy in ulcerations 1 cm. in diameter or less. In fact, in only two of eighty-seven cases was a cancer found in such a lesion. Lesions two and a half centimeters or greater in diameter proved to be malignant in a little less than half of the cases whereas in lesions varying from one to two and one-half centimeters in diameter, approximately 20 per cent were malignant. The average diameter of benign ulcers was 1-7 centimeters whereas that of malignant ulcers was 2.3 centimeters. Allen and Welch[2] showed that in ulcers two centimeters in diameter the diagnostic error is approximately 50 per cent.

In many cases of gastric carcinoma there is anacidity, and it is a well known fact that benign ulcer is frequently associated with and dependent upon a hyperacidity. On the other hand, a cicatrizing ulcer at the pylorus associated with obstruction may produce sufficient atrophic gastritis that an anacidity may occur in a benign lesion and, conversely, the presence of hydrochloric acid in a patient with an ulcerating lesion does not preclude the possibility of a malignancy. This statement is well substantiated by Allen and Welch's[2] experience. Ninety per cent of the benign ulcers had free hydrochloric acid whereas 10 per cent did not. Of the gastric cancers, almost 40 per cent had free hydrochloric acid. Even more important, however, was that in the so-called "ulcer cancer" group approximately 90 per cent had free hydrochloric acid. Obviously, one cannot depend upon the presence of hydrochloric acid in the stomach as proof that gastric malignancy does not exist.

The prognosis in gastric carcinoma is almost entirely dependent upon the time at which the diagnosis is made and when appropriate therapy instituted. In general up to the present time the prognosis in malignant lesions of the stomach has not been good. According to Livingston and Pack[1] the chances of cure in unselected cases of gastric carcinoma have been between 1 and 4 per cent, which is prohibitively low. On the other hand, they state that a patient with a clearly resectable lesion has a chance of cure of between 10 to 20 per cent and that the patient who has survived a successful resection has about a 20 per cent chance of remaining well for five to ten years. These authors state, "It may be considered as a working rule that approximately one patient in three discharged from the hospital after gastrectomy for cancer survives for three years; one patient in four is free of the disease for five years; while one patient in five is still living at ten years. For patients who have gastric resections when the malignant tumor is still confined to the stomach at the time of operation, one patient in every two obtains a five-year definite cure." This extremely bad outlook in gastric carcinoma is truly a reflection upon the medical profession for two reasons, first, because as physicians we have not educated the lay public to consider gastric symptoms in individuals of forty-five years of age or older as serious, and, second because we have not ourselves appreciated the danger of procrastination or the use of conservative therapy in lesions of the stomach. As succinctly stated by Alvarez[5], "So long as most physicians are willing to treat epigastric pain in older persons expectantly and without consultation of an expert roentgenologist, and so long as they are willing to treat gastric ulcer medically without fortnightly roentgenologic supervision, there can be no hope of lessening the mortality from cancer of the stomach." In this study Alvarez[5] showed that physicians not only do not think of the possibility of gastric carcinoma in their patients but also not even in themselves. In the forty-one cases which he reported occurring among physicians, seven had symptoms which were identical with those of gastric or duodenal ulcer. In an additional five cases the symptoms may have been due to an ulcer, and in nine additional ones the early symptoms were characteristic of ulcer. Thus, in twenty-one of the forty-one cases an ulcer was the most likely diagnostic and was the one usually made. Priestley[6] has stated that the failure of diagnosis in gastric carcinoma is dependent upon three factors, the lesion factor, the patent factor, and the physician factor. The lesion factor which fortunately is responsible for the delay in diagnosis in a small group of cases can be further decreased by routine gastroenterological examinations at six- to twelve-month intervals. Lesions occurring in the fundus or the body of the stomach produce few early manifestations because they cause little disturbance in gastric physiology and are likely not to be recognized until relatively late. The other two factors, the patient and physician factors, should be eliminated completely. The first will require education by impressing upon patients the necessity of seeking medical attention whenever they have symptoms referable to the gastro-intestinal tract. The last, or physician factor, also requires education and the reemphasis to all of us that gastric symptoms in individuals past thirty-five or forty years of age may be of serious significance and may indicate a gastric malignancy. In each instance careful physical, laboratory, and roentgenological examinations are imperative and the lesion must be considered malignant until proved otherwise. A single negative gastric roentgenologic examination of the stomach does not exclude the possibility of a malignancy and the examination should be repeated in a few weeks in order that a small lesion which previously could not be detected can be found. An unexplained anemia may indicate a gastric carcinoma and, although symptomless severe secondary anemia is more likely to be associated with cecal carcinomas, it may accompany also gastric carcinoma.

The treatment of gastric carcinoma consists, first, of prophylaxis and, second, of early detection and complete removal of the malignant process. Although in the past relatively little emphasis has been placed upon the preventive treatment of gastric carcinoma, it seems to us that this is one of the most important phases in the cure of this disease. If physicians will accept that all gastric lesions must be considered as malignant until proved otherwise and insist that the benign lesions are treated adequately, many cancers of the stomach will not develop. This is particularly true in ulcers, in polypi and in chronic gastritis. As mentioned previously, the fact that ulcers of the duodenum respond well to conservative therapy has been responsible in the past for the use of conservative therapy in gastric ulcers. Although one must admit that there are benign ulcers of the stomach which can and do heal, the fact, however, that an ulcerating lesion of the stomach may already be carcinomatous and, equally as important, that a healed gastric ulcer is an area which is even more susceptible to malignant change than the normal gastric mucosa is of great significance. Because of the latter it is imperative that a patient with a healed gastric ulcer be watched carefully and reexamined at intervals of from three to six months. If symptoms recur or there is a change in the x-ray appearance of the healed ulcer, surgery should be resorted to immediately. On the other hand, an ulcer of the stomach which does not heal within a period of three to six weeks is an indication for gastrectomy as are all ulcers in the prepyloric area and those on the greater curvature. Ulcers in the latter two sites are so frequently malignant that they must be considered as carcinoma from the outset.

Although there is considerable pessimism concerning the results obtained from the treatment of gastric carcinoma and this pessimism has certainly been justified in the past, it has been due largely to the failure to treat adequately the premalignant benign lesions and the failure to diagnose carcinoma of the stomach at a time when the lesion is confined to the stomach alone and has not metastasized beyond. Such pessimism will persist as long as physicians wait until the so-called textbook picture of gastric carcinoma is present before a diagnosis is suspected or made. Although it is essential that gastric carcinoma be treated so early that the diagnosis may be difficult, since so frequently when the generally accepted classical picture of the disease is present a cure is not possible because of extensive metastases, the finding of a large tumor does not necessarily preclude complete removal and a cure. We have observed several such cases. The following is an example.

H. C. M., male, aged 51. H. M. Clinic No. 16529. Admitted to the Hutchinson Memorial Clinic of Tulane University on May 13, 1939 complaining of pain in the stomach. He stated that in the latter part of November, 1938, he developed pain in his left lower quadrant and severe constipation. Pains were constant and aching in character and did not radiate. In January, 1939, he saw a physician who diagnosed diverticulitis. He was treated for this condition for three months and his symptoms were better. At the end of this time he developed pains in his epigastrium. These were cramp-like in character and frequently awoke him at night. They were relieved by milk or a medicine which his doctor gave him. He also had a rather severe anemia. Blood was found in his stool on several occasions. He was given six "shots" for the treatment of an ulcer, which had been diagnosed by x-ray. X-rays were again taken in April. Gastroscopy was done on May 9, when tumor of the stomach was confirmed. He had lost twenty-five pounds in weight since December.

Physical examination showed a resistance in the epigastrium, but no palpable tumor. He had rather severe anemia. Hemoglobin 60 per cent, RBC. 3.8. Gastric analysis: No free HCL, total three.

Operation 5/25/39 - a large tumor was found involving the lesser curvative of the stomach at the junction of the pars cardia with the pars media. The tumor was about ten cm. in diameter. It had invaded the left lobe of the liver. Firm nodules extended along the lesser curvative toward the cardia. A radiological gastrojejunostomy was done.

Pathological examination showed an adenocarcinoma with little differentiation. There was involvement of the lymph nodes along the lesser curvature. The patient's postoperative convalescence was uneventful. The patient has been seen at six-month intervals since then and is free from symptoms and apparently well. The last check-up was February 26, 1946. Almost six years have elapsed since the gastrectomy for a very large tumor which appeared at the time of operation to be so extensive (with involvement of the regional lymph nodes and with direct extension to the liver) that it was thought the gastrectomy would be only palliative.

The operative treatment of carcinoma of the stomach consists of radical resection of the involved area of the stomach, which usually means a subtotal or total gastrectomy and at times an esophago-gastrectomy. In most instances, all of the lesser curvature up to the cardia is removed. This is particularly true in cases in which the lesion is in the body, the pylorus or along the lesser curvature, because lymphatic extension of these lesions is toward the cardia. In addition to complete or subtotal removal of the stomach, the gastrohepatic, the gastrocolic ligaments and greater omentum, should be removed. Curvature resection frequently is possible even in those cases in which there is direct extension to an adjacent viscus such as the traverse mesocolon, transverse colon, spleen, pancreas, or liver. Direct extension to an adjacent viscus offers a much better prognosis than does lymphatic or hematogenous mestasasis. In the former instance a cure frequently can be obtained by removal of the involved adjacent viscus. In cases in which there are metastases to the liver, palliative resection is justified in order to rid the patient of the fungating ulcerating mass, but a cure will not be obtained. It has been the observation of most surgeons that following removal of the primary tumor, extension of the metastatic lesion is not so rapid as had been present up to that time. In high lying lesions of the stomach, we prefer the thoracic approach, removing the stomach either subtotally or completely. Age is no contraindication to radical surgical removal of gastric malignancies. Within two weeks' time we did extensive resections in persons each aged seventy-two with lesions extending to the transverse colon and transverse mesocolon, necessitating removal of wide portion of the colon in addition to subtotal gastrectomy. Almost a year has elapsed since these patients were operated upon and they are free from symptoms with no evidence of recurrence. It is probable both are well.

The preoperative preparation of patients with gastric carcinoma is extremely important. Dr. Champ Lyons has shown that patients with ulcerating lesions of the stomach are likely to have a severe anemia the degree of which is not indicated by the routine laboratory studies because of a contracted blood volume. Although this is found in all gastric ulcers it is particularly important in malignant lesions because although the correction of anemia in benign ulcers favors the healing of the ulcer, prolongation of the preparatory treatment after the correction of anemia in malignants may even favor the growth of the neoplasm. Operation is necessary as soon as the anemia is corrected. Although the hemoglobin and red cell count may be within normal limits, there is usually a severe anemia, particularly in patients who have lost much weight. This abnormality is detected by the determination of the blood volume, a procedure which we do routinely in all chronically ill or severely acutely ill patients, and can be corrected best by the administration of whole blood. It is astounding that such large quantities of blood are necessary to restore the normal blood volume in patients with gastric carcinoma; not infrequently the administration of as much as two to five liters are required to reestablish the normal physiological relationship preoperatively. The following is an example.

I. M., male, aged sixty-five, with gastric carcinoma had lost from 128 pounds to 106 pounds in three months. From measurements of the blood volume the following findings: blood volume, 70 per cent; total protein, 80 per cent; and total circulating hemoglobin, 50 per cent, normal. Three thousand cc. of whole blood were necessary to correct this deficiency which was not obvious until the blood volume determinations were made.

CONCLUSIONS

The pessimism concerning the curability of gastric carcinoma has been largely due to lack of appreciation by physicians that many gastric malignancies begin as benign lesions and because of continued conservative therapy these lesions are allowed to become malignant.

Gastric complaint in an individual forty years of age or older should be considered serious and an examination should be made to exclude carcinoma.

All gastric ulcers, in contradistinction to duodenal ulcers, should be considered surgical lesions, and if treated conservatively must be watched carefully for malignant danger. A persistent scar in the stomach should be carefully watched because of the great susceptibility of the gastric mucosa to malignant change. All gastric ulcers on the greater curvature or in the prepyloric area and all ulcers which do not completely heal symptomatically, radiographically and gastroscopically within three to six weeks should be treated by radical gastrectomy.

The time to cure gastric carcinoma is when the diagnosis of malignancy or gastric carcinoma consists of extensive removal of the stomach and regional lymph nodes. Occasionally curative resection is possible even when there is direct extension to adjacent viscera by removal of the stomach and other involved viscera.

Palliative resection is justified when possible even in the presence of distant metastases.

By the eradication or correction of benign premalignant lesions of the stomach and early detection and radical removal of malignant lesions, the prognosis in this condition will become much better.

> Be not prodigal of your opinions, lest by sharing them with others you be left without.
>
> —Ambrose Bierce

The Use of Folic Acid and Other Compounds in the Treatment of Macrocytic Anemias*

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THE INVESTIGATION of the nutritional requirements of bacteria in the past few years has been a direct extension from similar studies in animal and human nutrition. These studies of bacteria have yielded dividends, for through them the existence of folic acid was first suspected and later isolated and synthesized. The compound which we have been using and have been calling folic acid is the liver Lactobacillus Casei factor of Stokstad. This material and related compounds have been found in liver, yeast, spinach, grasses, milk products, and fermentation residues. Small amounts are apparently widely distributed in food substance.

The importance of the discovery that folic acid causes a remission in macrocytic anemias in human beings lies not in the fact that this is a specific treatment for such anemias. We have had an excellent specific in liver and liver extract since 1926. The importance lies in the fact that we now have a synthetic substance which can serve as a standard and starting point in the further investigation of the pathologic physiology of anemias.

Animal experimentation provided substantial hints that folic acid might be effective in human nutrition. A deficiency of folic acid regularly produces an anemia in chicks. In rats the deficiency results in leukopenia and sometimes in anemia. As a result of this deficiency monkeys develop a sprue-like syndrome with anemia. Since all of these syndromes in animals respond dramatically to folic acid there was good reason for a trial of the substance in human anemias.

Using concentrates of folic acid from yeast, liver, spinach, and other sources, assays were made on human beings in 1941 and 1942 in several clinics and laboratories in this country. The results were equivocal or entirely negative and further investigation of the concentrates was postponed. In July, 1945, we at the Nutrition Clinic in Birmingham, Ala., received one gram of the synthetic L. Casei factor which had been prepared by sixteen investigators at the Lederle Laboratories and the American Cyanimide Company. This material was given a trial in several patients with macrocytic anemia.

Case 1. A patient with nutritional macrocytic anemia, rbc 2.54 millions, Hg. 8.7 gm. was given a single dose of folic acid, reached a peak of 9 per cent and then subsided. There was no alteration in the red cell count or hemoglobin. He was then given a course of 20 mg. folic acid I. M. daily for eighteen days. Reticulocytes rose to a peak of 14.8 per cent; the patient had a marked increase in appetite and feeling of well being, and within forty days the blood picture showed rbc 4.08 millions, Hg. 11.7 gm.

Case 2. In this instance a patient with pernicious anemia and pellagra was given 150 mg. folic acid daily by mouth for twenty-three days, then 100 mg. twice weekly thereafter. Reticulocytes rose to 21.4 per cent on the seventh day. Rbc rose from 2.35 millions to 4.29 millions and Hg. from 7.8 to 12.4 gm. in a period of forty-eight days.

These and similar cases demonstrated that folic acid was effective as a hematopoietic substance in nutritional macrocytic anemia, and pernicious anemia when given orally or parenterally.

In November, 1945, Dr. Tom Spies began the study of folic acid on sprue in suitable patients in Cuba. There it was found quite as effective in the macrocytic anemia of sprue as in other macrocytic anemias. In these instances, too, it was noted that the patients experienced a disappearance of malaise and an increase of appetite. After a variable length of time the diarrhoea tended to subside and there was a decrease in the amount of fat in the stools.

The large doses of folic acid used in treating the earlier patients are apparently excessive. Probably the optimum minimal dose is 10 mg. orally for the patient in relapse.

Case 3. A patient with pernicious anemia in relapse, and representative of many others, was given 10 mg. folic acid daily. Reticulocytes began to rise on the third day and reached a peak of 26 per cent on the ninth day. In forty-seven days rbc rose from 2 millions to 4.19 millions, and the Hg. from 8 to 13.9 grams.

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* Read before the Section of Medicine of the Mississippi State Medical Association, May 15, 1946, Jackson, Mississippi.

So far folic acid has proved effective only in the macrocytic anemias, those which are known to respond to parenteral liver extract, and these results were to be expected. We have not found such a patient, however, who has not had a good response to folic acid orally. This new vitamin of the B-complex, however, does not have any beneficial effects on other anemias, i. e., aplastic and hypoplastic anemias, microcytic anemias, or the anemias of leukemia or chronic infection. It is to be expected that folic acid will have beneficial effects in the treatment of coeliac disease because of the relationship of this disorder to sprue.

Folic acid is apparently non-toxic. We have given as much as 0.5 gm. daily for over six months to several individuals without untoward symptoms and as much as 2 gm. in a single oral dose.

The demonstration of the effectiveness of folic acid in macrocytic anemias has led to the proving of another hematopoietic material. This substance, called thymine for many years, is better spoken of as 5-methyl uracil in order not to confuse it with thiamin, or vitamin B_1. Microbiologists have shown that 5-methyl uracil may be substituted in synthetic media for folic acid to support the growth of lactobacilli. Stokes showed that at least 1500 times as much 5-methyl uracil as folic acid had to be used in this substitution. He demonstrated that the bacterial cell apparently used this material directly as a building block for nucleinic acid. He proposed that folic acid might act as an enzyme or co-enzyme which aided the synthesis of 5-methyl uracil or a similar substance. It seemed to us that this theory should be tested in human nutrition. A series of patients in Cuba were given 50 to 100 mg. doses daily. These patients who had macrocytic anemia, showed no hematologic response. It then seemed necessary to see if Stokes' ratio of 1500 of 5-methyl uracil to 1 of folic acid might not be applicable. From what was known of folic dosage it was concluded that a dose of 10 to 15 gm. might be required daily.

Case 4. A patient with pernicious anemia was given 1 gm. 5-methyl uracil daily for seven days. There was no hematologic response. The dose was increased to 6 gm. daily for twelve days. On the eleventh day reticulocytes reached a peak of 14.2 per cent and the rbc rose from 2 to 2.8 millions and the Hg. from 6 to 10 gm.

We have since been able to demonstrate that the expected dose of 10 to 15 grams of 5-methyl uracil can cause complete remission in a patient with pernicious anemia, nutritional macrocytic anemia, and the anemia of sprue.

DISCUSSION

According to Castle's formula for the understanding of the pathologic physiology of macrocytic anemias, **extrinsic factor**, a substance derived from food, reacts with **intrinsic factor**, an enzyme elaborated by the gastrointestinal mucosa, to yield an **erythrocyte maturation factor.** It is obvious from the effects that folic acid has on the macrocytic anemias of different etiologies that it is neither the **extrinsic** nor the **intrinsic factor** of Castle. It is, however, definitely an erythrocyte maturation factor, but not the potent E.M.F. found in liver extract. One cc. of concentrated liver extract which contains 20 U.S.P. units usually contains less than 1 mg. of folic acid (L. Casei factor) and may contain as little as 5 micrograms, insufficient amounts of folic acid to produce dramatic remissions in pernicious anemia afforded by small amounts of liver extract. Whereas the minimal dose of folic acid for a maximal hematologic response is in the region of 10 mg. daily for several weeks, certain liver extracts given in amounts of 0.037 mg. of dry material have produced remissions. Consequently there must be other potent erythrocyte maturation factors in liver extract.

A comparison of optimal doses of folic acid and 5-methyl uracil with optimal doses of liver extract should be made. On the average, following such doses, reticulocytes begin to rise on the third day of treatment and reach a peak on the seventh day with all three forms of treatment. It is a clinical impression, however, which is yet to be evaluated, that the rise in red blood cells and hemoglobin is slightly slower under treatment with folic acid and 5-methyl uracil than with liver extract.

The use of folic acid in the treatment of the macrocytic anemias remains in the experimental stage. Investigation is under way to determine the effects of this new vitamin on posterolateral sclerosis. This evaluation may take many months and perhaps years.

SUMMARY

1. Folic acid, a synthetic vitamin of the B-complex, is a potent erythrocyte maturation factor.

2. It is effective in the macrocytic anemias characterized by megaloblastic arrest in the bone marrow. These include the nutritional macrocytic anemias, pernicious anemia, macrocytic anemias of pregnancy, liver disease, sprue, and other diseases of the gastro-intestinal tract.

3. In sprue not only is the anemia bettered, but the diarrhoea tends to improve and the amount of fat in the stool decreases.

4. The discovery of folic acid is important for persons who are sensitive to liver extract.

5. Of greatest importance is the fact that synthetic folic acid affords a starting point for the investigation of the pathologic physiology of anemias. In this role it has directed the study of 5-methyl uracil which has been shown to have antianemic properties.

Geriatrics*†

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Apparently there are now in this country about 9,000,000 people over 65. A white child in this country can now be expected to live to be 65. A white adult of 40 can now expect to live to be over 70. This improvement in longevity has been of gradual development in this country. In passing one must admit that regardless of statistical life expectancy, real longevity, that is over 90 and crowding 100, has remained the same throughout historic time. With our increased life expectancy in this country, the century mark in years is as unusual today in this country as it was in the Roman Empire and is with those nations like Russia with a low life expectancy.

Is one elderly at 65 or when? Aging probably begins in the embryo. Actually women accept, albeit secretly, the verdict of being elderly with the menopause when child bearing is over. The proud males will admit being elderly with the onset of prostatic disturbance. Somewhere in the forties sometimes earlier and sometimes later there comes an awareness that one is no longer young. And if there is to be preventive medicine in geriatrics, we must not await doddering old age to begin preventive therapy. One must regard the diagnosis of being elderly much as one does the diagnosis of pulmonary tuberculosis. When the diagnosis is apparent to the public on account of cough, expectoration, emaciation, and other symptoms obviously little is to be expected from therapy. Being elderly is actually an illustration of relativity. We know, or think we know, that all living things age, and die, even those oldest of living things, the giant sequoias of California. Mortal man, born of mortal woman, ages and dies. Insolent youth, aflame with vigor, is intolerant of age. Youth paraphrases the old adage and admits it does not suffer the elderly gladly. And yet in a few years youth finds itself elderly. In some mysterious fashion the future of youth has become the past of the elderly. "Old age comes by night, as a thief comes that has no heart by day." The season changes and the leaf is sere.

Mostly we have taken the elderly like the poor and like the weather. We have talked about old age but have done nothing about it. But somehow, more or less abruptly, we have become conscious of the poor and have started to think that perhaps we ought to do something about them.

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Likewise, we have begun to think of the elderly and have experienced pricks of conscience about them. Doubtless the fact that there are proportionately many more of the elderly than there used to be has made us conscious of the problem. Medical science which has been aggressive in eliminating many infections such as diphtheria, typhoid and more recently pneumonia, is suddenly faced with the problem of caring for those it has saved, who are now a veritable host of the elderly. Then, too, the changing pattern of our social structure emphasizes the problem of the elderly. I refer to housing, industry and the other factors that have so markedly changed within the social pattern.

In some ways the attempts of the elderly have progressed more rapidly than the medical treatment. However, these pioneering social experiments have been generally disappointing. The experience of the Old Age Centre in San Francisco which was established in 1929 is illuminating. At first of major importance seemed to be the financial security of the elderly. Of course,[2] "it is a fact that for many of the present amount of pension money" (or old age assistance) "is too small to be commensurate with their needs, but were this pension sufficiently increased to allow for full maintenance we should still find something more was needed—something beyond money, to bring happiness and contentment to the old." In other words, the granting of a pension does not result in a state of physical and mental well-being. Every practitioner of medicine knows that those who have more than ample financial security are not necessarily happy and content at any age.

But it is true, I think, that we have been stupid in the treatment of the elderly. Since the beginning of time, man has tried to evade growing old. He has sought the fountain of youth. Sometimes, as Heinrich Heine wrote, man tries to deceive himself by boasting that he has left his passions behind him, when as a matter of fact his passions have left him behind. A small boy was sitting on a curbstone weeping disconsolately. An elderly man stopped and asked sympathetically "What are you crying about, my boy?" The answer was "My older brothers will not let me do the things they are doing." Whereupon, the elderly man sat down on the curb and wept with the boy, but even more bitterly. For the boy would grow up and do the things his brothers were doing, baseball, football and even falling out of the apple tree and breaking his arm, but the elderly man would never again do those things.

Homer wrote of the old men chirping like grasshoppers at the walls of Troy, no doubt recounting their earlier feats of arms and of armour, presumably greatly embellished. Because human nature is as it is, men worship more ardently, albeit at times furtively, at the shrines of Mars, Apollo, and even Bacchus, or yet of Don Juan, while women worship at the shrine of Venus, or yet of Cleopatra.

Of necessity, the elderly must accept the limitations of age. They must live in the present and not try futilely to escape into the past. Don Quixote is in the reading an amusing and somewhat lovable character, but I fancy that the elderly Don Quixotes in real life tilting at windmills are exasperating and worse. The remedy is simple in theory but often difficult in application. The elderly must live in the present world, with a sense of contributing something to the world in which they live. The handicaps of the limitation of their years make this often a difficult problem. Sometimes they have to be rehabilitated to use the current phrase. But far better is it that much earlier in life, certainly in the forties, men should be developing some occupation, some interest, some hobby, if you will, that will make them of some use and enable them to feel that they belong to the present day after perhaps they have retired or been retired.

It is the trend of the times that there are age limits (or a retiring age) in many occupations. For example, let us take the customary procedure in schools or colleges as regards teachers. Teachers and professors might be assumed to be intelligent persons. I think they would admit it. Do we not entrust to them the education of our children? And yet when these same teachers and professors arrive at the retiring age (which they have known about for years), in many instances, they are not only surprised, and unhappy, but totally unprepared.

There are many splendid exceptions. I have in mind a successful surgeon who after retiring from surgical practice, achieved even greater distinction in the field of anthropology. A well-known dean of an important medical school on retiring became president of the art museum of his city. In the latter position he has done an outstanding job in which he has found happiness and contentment and which has been of real service to his community. A President of the United States on being retired, became a professor of law and subsequently a justice of the United States Supreme Court. But such illustrations are uncommon. The retired professional baseball player, the former pugilist are far too common tragic examples of jobless men while still in what is known as the prime of life. Doubtless rehabilitation is difficult. But somehow rehabilitation must be achieved but of course not on the basis of athletic prowess. Physical perfection, beauty of face and figure, sexual attractions are behind them, but they still can be of use and, being of use, they can be happy. An ancient jingle contains much food for thought and is worth repeating.[3]

> "King David and King Solomon
> Led merry, merry lives,
> With many, many lady friends,
> And many, many wives
> But when old age crept over them—
> With many, many qualms,
> King Solomon wrote the Proverbs
> And King David wrote the Psalms."

And what has medical science to offer to the elderly? Not perpetual youth, not the renewal of youth, not the maintenance of the physical or sexual vigor of youth, not the physical beauty of youth. Curiously, too, youth often has mental qualities which seem to fade with years. Poets are apt to be young, like Keats and Shelley. Mathematicians and physicists often reach their zenith as young men. Such mental qualities are apparently at times linked with youth like certain physical qualities.

The physiologists like to tell us that Nature always tends to be prodigal with her gifts. We are told that the human organism has vast resources, often untouched. We are told, too, that the processes of repair, restoration, and replacement are almost limitless. The human body has two eyes, two ears, two kidneys. Instances are cited showing that many may live and flourish with the loss of considerable brain tissue, that the heart has an enormous reserve capacity, and that the liver may function on well even when cirrhotic. Some physiologists would put no time limit to life. There is doubtless some truth in this, but there is also some wishful thinking. Furthermore, we are not concerned with mere existence but with a life that is happy, purposeful and useful.

Up to this time, living to be elderly is largely concerned, at least statistically, with the avoidance of accidents and particularly of infectious accident. These may be designated as negative or passive therapy. But are there positive and aggressive measures that are conducive to being well and happy even though elderly? So far, it must be admitted that there is little that is tangible and definite. The elderly may just complain that they escaped diphtheria in childhood, typhoid fever in early adult life, pneumonia in later years, only to die somewhat prematurely of cancer or of heart disease. And even if the surgeon removes offending gallstones and an obstructing prostate, they still are miserable with rheumatism or arteriosclerosis. To be sure, as the aging process is studied clinically, and experimentally, our understanding grows and with knowledge come tentative hypotheses. For example, we are rapidly learning about nutrition. Meat, once considered the arch enemy of the aged, now seems necessary and the starches once the standby of the elderly, seem rather dangerous. But as most of us over 65 have gallstones, unless they have been surgically removed; are fats detrimental on account of our gall bladders or on account of the formation of cholesterol? And what of certain minerals and of vitamins? Certainly clinically many of the elderly, especially those on restricted diets due to teeth (or lack of teeth), to gallstones, or diverticulosis (which nearly all the elderly have) seemingly flourish on vitamins, especially those in the B complex. Many an elderly patient who has neither pernicious anemia, nor any other form of anemia, does well on weekly injections of liver. And despite a profound aversion to such forms of medication, I have reluctantly come to the conclusion that in the elderly the replacement, in part to be sure, of such items as hydrochloric acid, pepsin and even pancreatic extractives, may be beneficial.

I would place the care of the nutrition of the elderly in the first rank. Once more I must confess to having overcome an aversion to enemata and irrigations as often of less evil than powerful laxatives and cathartics.

It seems likely that better nutrition which embraces not only food intake but food assimilation, has been a large factor in prolonging life after 40 in recent years. It may well be that increasing knowledge may furnish technics which may maintain physical well-being in the elderly. Even at this time, too often the evaluation of the nutritional program of the elderly seems in many instances much too casual. There are obvious difficulties, involving time, money, family differences of dietary régimes. The middle aged members of the family may be weight and calorie-conscious and therefore devoted to scanty meals with much roughage. The elderly seem often to prefer a hearty breakfast, now largely outmoded, but a light supper. And illustrations might be multiplied, including the work involved in producing a hearty breakfast.

The various glands of internal secretions have long been of intense interest to the scientists and the public alike. The important relationship of these glands to growth and metabolism has long been established. But the imagination has far out-run actual performance. Yet if a male dog can by the subtle and adroit injection of various hormones develop lactating breasts, what may not the future have in store? Certainly the administration of thyroid gland substance in cretinism and in myxedema brings results that are close to miraculous. How wonderful would it be if we had a test like the determination of the basal metabolic rate in thyroid dysfunction, for all of the endocrine determination is not exact, but rather a first approximation. But at this day and date thyroid diagnosis and thyroid therapy stands quite alone among the internal glands on a reasonably firm foundation. But progress is being made, albeit slowly. So far, however, there is little justification for personality cocktails, or pep cocktails, concoctions of a conglomeration of glands presumably especially designed for the individual who receives them. Probably, fortunately some, if not many, of the glandular products are inert and innocuous especially when taken by mouth. But some of the glandular products and hormones are potent. Every clinician has employed with success certain glandular products or hormones for the alleviation and, in many instances, the complete control of the symptoms of the menopause. Certainly this has been a major therapeutic triumph even if all sufferers are not uniformly cured or even benefited.

And what of the males? And is there a male climacteric? Certainly the administration of the male hormone has been very extensive, but tabulation of results is difficult. Perhaps a fair evaluation of the situation is as follows. Progress has been by trial and error, and has not been controlled by precise tests because they are not available. Probably most of the administration of the male hormone has been without effect. Sometimes there has been an apparently striking result which has seemed to be related to the psychology of the patients. In a proportion of the cases, rather small but not insignificant, there has been a varying favorable response. This favorable response usually consists of a feeling of increased well-being, physical, nervous and mental. In some instances, particularly in younger men, there seems to be a definite increase in the libido. This is especially to be noted in those male patients who in consequence of a pituitary tumor (or perhaps other pituitary disturbance) had previously lost their libido as one of the symptoms.

I think it is fair to conclude that with increasing years there may be aging and lowered function of some and likely of all of the glands of internal secretion. We can be definite in the case of the thyroid gland, but it is well to remember that in the case of the thyroid gland, the disturbances are not universally in the direction of decreased function. Hyperthyroidism (or increased function of the thyroid gland) occurs and not rarely in the elderly but is not as common as diminished function of the gland.

Consequently, one does not administer thyroid to every elderly person, nor the male hormone to every male over forty, nor a female hormone to every female at the menopause and certainly not if the menopause is symptomless.

A word of caution may not be out of place. There is a definite connection between internal glands and growth. There is some connection between growth and new growths or cancer. And sometimes it seems that somehow the internal glands may come into the picture.

Certainly some of the elderly will be benefited by the use of endocrine gland substances and hormones. Perhaps in the future medical science will solve some of these problems and we may have a variety of medicinal substances from the endocrine glands, which may be of great benefit to the elderly.

Within the last decade or so a group of chemical substances has been added to the pharmacopeia which have had a direct stimulating effect on the central nervous system. The best known of these is benzedrine sulfate. Benzedrine sulfate is often extremely useful in a wide range of symptoms bordering on narcolepsy. It seems to add a push to many conditions of depression. Since lack of nervous energy is a common complaint of the elderly, this group, especially benzedrine sulfate, has been largely used in the elderly. However, the habitual use and even its temporary use in the elderly, while counteracting a lack of nervous energy, has frequently the complication of diminishing the tone of the urinary bladder. That effect is by no means as common in younger people. Similar chemical substances are being developed in the hope that this complication may not be present. That is a matter of the future.

In the care of the elderly, physical exercise usually becomes a problem. My personal belief is that the elderly should continue in their normal habits, only changing when the years put definite limitation, not theoretical limitation. I have seen mountain climbers of 80 and again those whose only exercise is conversation and smoking. Sometimes it is only pride that forces the elderly golfer to play the traditional 18 holes. But a reasonable amount of walking, if one is used to it, is probably better than sitting constantly at home, in the office or in the club. When I first undertook the practice of medicine, many houses in Boston had an elderly member of the family, who never, or almost never, went out. Older people were not supposed to go out. But that state of affairs no longer obtains. It went out with the lace caps, the bonnets, and the prolapsed womb of the women, and with the tall hats, whiskers, and ineffectively treated prostates of the men.

I have often pondered as to why women live longer than men. The usual answers do not satisfy me. To be sure, up to the present, women do not go to war in the sense of combat. But women mostly can make the transition from their more active years to their less active years with less difficulty and less anguish. Women commonly are interested in their gardens, in the making of Red Cross supplies, in knitting and the household arts and crafts. Women go to lectures, to their church. They visit the sick and the unfortunate. They keep up the family correspondence, remember birthdays and anniversaries. They are often very handy and helpful with grandchildren. Hence, the quip—"yes, we will win the war if the grandmothers hold out." These are not the activities of big business, great scholarship or of a profession, but who will say that those activities are not useful? And elderly women generally do not tend to be quite so jobless as elderly men, and, consequently, not so unhappy. In the last analysis, the best age is the consciousness of belonging to the world of the day, of having a part in it and of being of some use.

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I do not know what I shall find out beyond
the final fight;
I do not know what I shall meet beyond the
last barrage of night;
Nor do I care—but this I know—if I but serve
within the fold
And play the game—I'll be prepared for all the
endless years may hold.

—Grantland Rice.

The Pathogenesis of Pulmonary Tuberculosis*

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THIS PAPER does not contain anything original or new. It is an attempt to state concisely and briefly the main facts that are known about the pathogenesis of pulmonary tuberculosis. The importance of this subject is reason enough for its presentation.

It seems pertinent and proper to preface the remarks about the subject by a discussion of the protective mechanism of the lung, which plays such an important role in the prevention of infection of that organ.

The protective mechanism of the lung is rather complex. It consists of several coöperating parts. These parts acting in harmony produce a smooth acting, efficient process that will rid the lung of all sorts of foreign substances, including bacteria.

These parts are a) the cough reflex, b) the ciliary action aided by c) the mucus secreted by the tracheo-bronchial glands, d) the peristaltic action of the bronchial musculature and e) the motile alveolar mononuclear phagocytic cells acting with the lymphatic drainage of the lung.

The cough reflex [1] is initiated by irritation of the tracheo-bronchial mucosa by foreign bodies and irritating gases. The cough reflex, however, is not active as a rule beyond bronchi of the second order.[2] The cough is the forcible expulsion of air from the lungs and is capable of expelling sputum and foreign bodies into the pharynx from which they may be spat out or swallowed. This part of the protective process takes care of that portion of the tracheo-bronchial tree that is sensitive to stimulation; that is, the trachea and bronchi of the first and second order.

The ciliated epithelium with its cilia lines the tracheo-bronchial tree as far peripherally as bronchioles of three-tenths and four-tenths millimeter diameter.[3] Mucous glands exist in the tracheo-bronchial walls as far peripherally as and including the bronchioles.[4] These glands are situated in the submucosa and empty onto the mucous surface through small ducts which traverse the four layers of the bronchial mucosa.[5] Foreign substances coming in contact with the mucosa are surrounded by mucous and are carried by the ciliary motion toward the larynx[6] where they likely will excite only a "clearing of the throat" and may produce coughing, by their presence, anywhere between the larynx and the bronchi of the third order. This would depend on the degree of irritation from the foreign body and the irritability of the mucosa. Once the material has reached the pharynx it is spat out or swallowed.

The elimination of foreign substances from the lungs is also helped by the peristaltic[7] action of the tracheo-bronchial muscles which are arranged in a more or less circular manner along the entire tracheo-bronchial tree from the larynx to and including the duct of the alveolus.[8] This action is from the periphery toward the larynx.

A portion of the iodized oil injected into the bronchial tree of a rabbit and observed fluoroscopically has been seen to be squirted back into the trachea and from there carried into the pharynx and swallowed.[9] This action occurred before the oil entered the alveoli. This may be considered as evidence of peristalsis or merely "as an expression of activity on the part of the broncho-motor apparatus."[10] At any rate, this action would seem to be powerful enough to eject foreign substances from the bronchial tree.

The alveoli protect themselves, in part, by the action of motile mononuclear cells. These cells engulf foreign substances, including bacteria, that find their way into the alveoli and carry them to the distal end of the duct of the alveolus where they are deposited on the most peripheral lymphatic structure which is an accumulation of lymphatic cells.[11] These cells are not surrounded by a capsule and can be correctly called lymph glands. This group of cells is connected with the pulmonary lymphatic system, and the foreign substances so deposited find their way through the lymphatic vessels to the hilus and peri-tracheal lymph glands where they are usually stopped by being filtered out.[12] If they are not stopped there, they will pass into the thoracic duct or the right lymphatic duct which will carry them into the venous circulation in the region of the junction of the internal jugular and subclavian veins where these ducts empty.

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It seems plausible that some of these cells, laden with foreign substances, might be carried into the bronchioles and expelled from there by the ciliary and peristaltic action together with the mucus that would pour from the mucous glands.

From the foregoing facts, it is seen that the mucosa of the trachea and bronchi is rather difficult to infect so long as the protective mechanism is intact. Overwhelming infection and damage to the mucosa would make it easier for infection to take place.

The role of the alveolar phagocytic cells and the lymphatics in first infection tuberculosis by inhalation is occasioned by the effort of this part of the protective mechanism to rid the alveoli of tubercle bacilli that have been inhaled to this point. The bacilli that lodge on the normal mucosa of the trachea and bronchi will be eliminated as will any other foreign body. The tubercle bacilli in first infection are treated largely as foreign bodies.[13] It is not until a week or two have elapsed that specific resistance to the tubercle bacillus develops.[14] This specific resistance consists of the formation of antibodies, both humoral and cellular, and a marked acceleration of the formation of the tubercle.[15]

Further extension of the process may be considered re-infection. This may take place by the bronchogenic route, the lymphatic route into the venous circulation, the blood stream or by contiguity.[16] Reinfection may also occur by inhalation of tubercle bacilli from an exogenous source.[17]

To recapitulate, foreign bodies, including bacteria are eliminated from the lungs from the alveoli and the entire bronchial tree. This is accomplished by the coöperation of the motile phagocytic cells of the alveoli plus lymphatic drainage from the distal end of the duct of the alveolus through the lymphatic structure there to the peribronchial and peritracheal lymph glands where they are filtered out. Proximal to the distal end of the duct of the alveolus the peristaltic action and the ejector action of the broncho-motor apparatus assists the cilia and the mucous glands in carrying these foreign substances to the bronchi of the second order where the cough reflex becomes effective and assists in the complete removal of these substances into the pharynx where they are spat out or swallowed.

With the operation of this protective mechanism in mind, we may proceed to the consideration of the invasion of the body by tubercle bacilli and their action after invasion and the reaction of the body to these organisms.

In the light of present day knowledge, pulmonary tuberculosis is an infectious disease of the lungs caused by the tubercle bacillus which gains entrance to the body by four different routes. These routes of infection are first, by inhalation; second, by ingestion; third, by inoculation; and fourth, congenital.

If the first infection takes place by way of the intestines, the primary tubercle will be in the wall of the intestine or in the mesentery and the regional glands will be involved, and if it is not arrested at this point, it will pass into the thoracic duct and into the pulmonary circulation.

If the first infection is by inoculation in the pharynx, nasopharynx or tonsils, the primary infection will involve those structures and the cervical lymph nodes, and if not arrested there, may pass into the thoracic duct and be carried into the pulmonary circulation.

Congenital tuberculosis does occur but from a practical standpoint it is probably of no significance. Less than one hundred authentic cases have been reported, and at best the patients lived only a few weeks.

First infection by inhalation will be discussed in detail later.

There are two types of tubercle bacilli that are readily infectious to man, and they are the human and bovine. The avian bacillus is only slightly pathogenic to man, and will not be considered here.

The sources of infection may be divided into animal and human. Milk from tuberculous cows is the most frequent animal source. Meat from tuberculous animals is a possible, though not a very probable, source. Tuberculous dogs, monkeys and other pets are possible sources of infection.

The human sources are the sputum of tuberculous individuals and the discharges from the body of tuberculous individuals, such as feces and urine. The discharges of tuberculous wounds such as abcesses of Potts' disease, tuberculous empyema, scrofula, or any open tuberculous wound.

The formation of the tubercle produced by inhaling the bacilli will be described here since inhalation is by far the most frequent mode of infection; however, it is well to remember that formation of the tubercle wherever invasion takes place will be histologically the same as in the lung.

I have already described the action of the motile alveolar phagocytic cell which engulfs the tubercle bacilli and carries them to the distal end of the duct of the alveolus and deposits them there. This, then, is the site of the primary tubercle formed by inhalation. This accounts for the fact that nearly all primary tubercles are located just beneath the pleura. Multiplication of the bacilli is going on all the time during the development of the primary tubercle, and at the same time are invading the pulmonary lymphatics by which they are carried to the hilus lymph glands. I have already stated that in the early stages of this type of infection the reaction of the host is purely a foreign body one, and there is no evidence of infection such as fever, malaise, etc. Within a few hours after the bacilli are deposited on the lymphatic structure at the distal end of the duct of the alveolus, there will be accumulations of leukocytes both mononuclear and polymorpho-nuclear, together with red blood cells and possibly some serum. Within twenty-four hours, the cells described are all gone with the exception of the mononuclear phagocytes which are few in number. Two or three days later there will be accumulations of large mononuclear cells which resemble the original phagocytic cells at first, but which gradually change, acquiring more cytoplasm and staining more deeply with acid dyes. They increase in numbers to form a more or less dense mass about and in the normal lung tissues. Then at the center of this mass, there appears one or more multinucleated giant cells. Necrosis then develops in the center of the mass, and the cells lose their outlines. No blood vessels develop in this mass which soon is surrounded by a granulation tissue mantle or capsule, which separates it from the surrounding normal body cells. The center of the mass becomes caseous and later may become liquified or calcified by a deposit of phosphates and carbonates from the blood. This area of calcification is seen in nearly all x-ray films of the chest and is known as the Ghon tubercle which has undergone calcification.

However, there are two other possible satisfactory terminations of the primary tubercle. One is complete absorption of the granulation capsule and the entire tubercle, and the other is complete fibrosis of the tubercle so that no tuberculin-like bodies can escape.

If the termination of this tubercle is not favorable, the disease will become progressive and the pathways by which it may spread are first, by contiguity; second, by the lymphatics; third, by the blood stream; and fourth, by the bronchogenic route.

Extension by contiguity is accomplished by the motile phagocytic cells, laden with tubercle bacilli, moving to the periphery of the tubercle where a new tubercle is formed.

Extension by lymphatic metastasis is accomplished by the bacilli escaping from the tubercle at the distal end of the duct of the alveolus and being carried by the lymphatic vessels through their various ramifications to the hilus lymph nodes where they usually are stopped. If they are not arrested in this group of glands, they will be carried into the peribronchial group and possibly stopped, or they may be carried on into the peritracheal group, and if not stopped there they will pass into the right lymphatic duct or the thoracic duct which will carry them into the innominate vein which in turn will carry them through the right side of the heart into both lungs and the metastasis becomes "blood stream" at this point. The consequent lesions will depend on the number of bacilli that are thus conveyed to the pulmonary capillaries where most of them probably will be filtered out and multiple infections develop. The infection may be halted or arrested at this point, and if not, it likely will go on to widespread, hopeless, so-called, pulmonary type of miliary tuberculosis, and might even pass into the general circulation and produce general miliary tuberculosis. However, if the number of organisms escaping into the general circulation is small, a bacteremia will result that may be of no consequence and may, on the other hand, result in tuberculosis of distant organs such as the spleen, kidneys, genitalia, etc.

The other form of blood stream metastasis is accomplished by a tuberculous focus rupturing into a blood vessel. The resulting focus will depend on the distribution of the vessel so invaded. Rupture into a pulmonary vein would result in generalized miliary tuberculosis. Rupture into a bronchial vein would result in miliary tuberculosis. Rupture into a branch of the pulmonary artery would result in "miliary tuberculosis of one lung" or hematogenous pneumonia of one lung.

If the number of bacilli discharged into the blood vessels mentioned is small and the time interval between the release of successive crops of organisms is weeks or months, the consequent infections will most likely be chronic low grade foci. In the case of the peripheral circulation, a bacteremia will develop that may result in infections of distant organs as I have already shown.

Extension by the bronchogenic route is accomplished by rupture of the tubercle or tuberculous process into a bronchus, and the disease may spread into any of the ramifications of the bronchial tree of the involved lung, or across the bifurcation of the trachea into the opposite lung where new foci may develop unless the protective mechanism of the lung is successful in ejecting the infectious material from the bronchial tree.

We have already seen how the reaction of the body to the first infection with tubercle bacilli is a foreign body reaction, but fortunately it does not remain such for it becomes specific as soon as the tissues have been sensitized to the tuberculo-protein. This usually occurs in six to twelve days and is evidenced by the development of tuberculin sensitivity. This eventuality is most important because it is nearly always the cause of the arrest of the tuberculous process before it has spread beyond the hilus lymph glands. As a matter of fact, it is this alteration in tissue reaction and cellular and humoral response to the tuberculo-protein that brings about the arrest and healing of any tuberculous process. It is this change that makes the difference between first infection and re-infection tuberculosis.

The difference between these phases of tuberculous infections was first noticed by Robert Koch. He observed that a laboratory animal infected for the first time by inoculation into the subcutaneous tissues with tubercle bacilli showed no immediate change either locally or generally until about the end of the first two weeks when the regional lymph nodes became palpable. This pattern was invariable. Contrast it to what happened when he re-inoculated the animal two or three weeks after the first inoculation. The skin at the site of the second inoculation because inflamed within twenty-four hours, and an induration developed and steadily increased in amount so that within a week a hard mass was formed. In another week or two this nodule had sloughed through the skin and ultimate healing resulted so that only a small scar remained. The second infection was attended by chills, fever, anorexia, etc., which did not occur with the first inoculation, and there was never any involvement of the regional lymph nodes. The tissue changes involved in this reaction were designated by Von Pirquet as "allergy" meaning "altered reaction," and he is credited with coining the term allergy which is so widely used today.

Baldwin, Petroff and Gardner assert that "allergy persists as long as tubercle exists in the body. Complete anatomical healing or such compact fibrosis of the tubercle that no diffusion from its interior into the circulation is possible, results in a diminution or loss of allergy." They further assert: "The allergic reaction in disease is characterized by an accelerated formation of tubercle which tends more quickly to localize the tubercle bacilli, accompanied by acute inflammation which destroys many of the organisms . . . . Without question such allergic phenomena are manifestations of immunity and result in destruction or fixation of the bacilli."

We are often asked if a first infection with tubercle bacilli produces immunity to tuberculosis. The answer to that question is embodied in the above paragraph but there is further evidence of immunity to tuberculosis in the fact that there are both "humoral" and "cellular" antibodies demonstrable in the body fluids and cellular elements of the tissues of the tuberculous.

The humoral antibodies known to develop are opsonins, agglutinins, precipitins and complement-fixation. However, the chief factor in acquired resistance or immunity to tuberculosis is the monocyte and possibly the lymphocyte. However, it should be emphasized that immunity to tuberculosis is only relative and that massive or often repeated infection may completely overcome the immunity and allow the disease to develop. This is what occurs in reinfection tuberculosis. If the infection is massive enough and virulent enough, the infection may be fatal. The intensity of the immune reaction may be the cause of the patient's death and has led Myers and his co-workers to wonder if first infection tuberculosis is a detriment and not a help. This view is contested by many competent observers who point out that exogenous reinfection, which is mainly by inhalation, must be accomplished by small numbers of bacilli in widely scattered areas of both lungs. It has already been shown that the organisms of such infection are held at the point of entry or killed. If this were true of first infection, it seems doubtful that clinical tuberculosis or reinfection tuberculosis would ever develop.

A further argument in favor of allergy immunity being protective is the fact that a survey of seven large cities showed that children reaching fifteen years of age reacted to tuberculin, indicating tuberculous infection, from 16.7 per cent in Detroit to 79.9 per cent in Philadelphia and 82.2 per cent in London, while Drolet estimates that less than one per cent of the adult population has clinical disease. If first infection does not protect against reinfection, it seems that a much higher percentage of clinical tuberculosis would exist in adults, because it is the development of immunity that causes healing in the first place and in the second place, it must be immunity that prevents reinfection from exceeding one per cent while first infection occurs from 16.7 per cent to 79.9 per cent or an average of 48.3 per cent.

Reinfection from an endogenous source is a different matter. A tuberculous focus in the lung rupturing and spilling its contents into a bronchus can produce infection even in the best protected individual because large numbers of bacilli can be concentrated in relatively small areas where the protective mechanism and immunity are completely overwhelmed. Rupture of such a focus into the blood stream produces new foci of the disease because the number of bacilli released at a given time may be too great for any immune reaction to cope with.

The pathogenesis of clinical pulmonary tuberculosis which is also called superinfection tuberculosis, adult tuberculosis, or reinfection tuberculosis is often continuous with the first infection and the point at which the transition took place can not be designated. Usually, however, the first infection becomes inactive before reinfection develops.

Reinfection may be exogenous or endogenous. The exogenous reinfection probably develops as the result of often repeated infections by inhalation or otherwise. These reinfections have the effect of tuberculinization and have a focal effect on the existing inactive tuberculous lesions causing them to spring into activity, and by this action lowering the resistance of the host allowing some of the new foci to spread.

The endogenous reinfection may be brought about by intercurrent infections, particularly infections that involve the lungs and the pulmonary lymphatics. Some of these diseases are pneumonia, measles, whooping cough, and typhoid fever. These diseases may reactivate an old focus which may spread by one of the routes already described and set up new foci of infection. Activity may develop because of some physiochemical change that is not understood. Trauma to the chest or other parts of the body may be followed by reactivation of the inactive foci while overwork, dissipation, grief, and worry may play a part in bringing about this change.

The resulting disease may be exudative or proliferative and the degree of tissue sensitization plus the number and virulence of the organisms will determine the type of lesion that develops. An individual whose tissues are highly sensitized, who receives large doses of tubercle bacilli in a new focus from either an exogenous or an endogenous source will have an exudative lesion with such intense reaction that a tuberculous pneumonia develops. This same individual with the marked sensitization receiving small numbers will develop an exudative lesion but of much less intensity. The first lesion may go on to caseation or excavation, while the second will be likely to heal by resolution because most of his lesion is a benign exudate.

On the other hand, one whose tissues are only slightly sensitized will develop a proliferative type of tuberculosis and the course will be chronic and insidious. A purely proliferative pulmonary tuberculosis is uncommon, because there is nearly always some exudate accompanying the proliferation. There is also some proliferation accompanying the exudate lesions so that pure examples of either type of lesion is seldom seen. They may be spoken of as exudative with proliferation or proliferative with exudation with much variation in degree of the two types of tissue reactions. Pottenger asserts that "proliferation is a response of the tissues to the lipoids of the bacillus while exudation is a response to bacillary protein," but he also agrees that the degree of sensitization of the host and the number and virulence of the organisms play a major part in the production of the different lesions.

I shall not attempt to discuss the histopathology or the gross pathology of these lesions because such a discussion does not belong in a discussion of pathogenesis. I realize that the subject has been presented in a rather superficial and brief manner, but time, and space dictate such a presentation.

Material for the other portions of this paper was obtained from the following sources:

Pulmonary Tuberculosis in the Adult, Max Pinner, Chas. C. Thomas.

Tuberculosis: Bacteriology, Pathology and Laboratory Diagnosis, Baldwyn, Edward R., Petroff. S. A. and Gardner, Leroy S., Lea and Febiger.

The Pathogenesis of Tuberculosis, Arnold Rich, Chas. C. Thomas.

Clinical Tuberculosis, Benjamin Goldberg, F. A. Davis Company.

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Proposed Statewide Hospital Program in Mississippi*

W. L. SHACKELFORD, M.D.
Laurel, Miss.

THE PROPOSED program in America is at the crossroads, and especially in Mississippi. The past legislature passed several bills which, if they fulfill their purpose, will change the whole hospital picture in Mississippi. The program is wide in scope and should be of great benefit to all Mississippians.

The success of this program depends on two things, as I see it: first, the type of commission set up to make the survey to see what the real medical needs are in the various communities of the state, and second, the kind of leadership the profession provides. The commission should be made up of the best brains of Mississippi, men who have the "know how" of all hospital phases, and will have the courage to see that the hospital beds are provided in those communities where there is a real need, and not try to locate such beds so as to satisfy only the political whims of such communities. We, as members of the Mississippi Medical Association, must realize this program is statewide and not for any particular section. We must be unbiased in our decisions to see that the hospitals are located where adequate men are available to perform staff functions. The functions of a staff are well known to every one of you, and will have to be carried out in such a manner that all our fellow members are given an even break as to the use of these hospitals. The staff will have to be so organized as to insure proper regulation of the type of medical work done so that the patient will be able to receive the best possible care. The hospitals should be so administered that each hospital will, where the number of patients is sufficient, be accredited for intern and nurse training. This training should be on such a plant that it would be recognized throughout the entire United States.

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*Read before the Section on Hygiene and Public Health at the annual session of the Mississippi State Medical Association, Jackson, Miss., May 14, 1946.

Let's now examine the individual pieces of legislation passed at the last meeting as it relates to this program. The Sillers House Bill No. 430 provides for the manner of appointment of the commission which is the key to the whole program, provides for nurse training and intern training. This phase cannot be accomplished without the highest type of hospital and nurse administration, which I hate to say is not available in Mississippi at this time. This being true, it means the importation of this type of personnel from a training ground in some other locality. The time has long since passed when someone who cannot succeed in any other field will be able to run our hospitals. This one fact above all others has been responsible for the poorly run hospitals in our state. The medical administration field is perhaps the highest specialized field in medicine today. This fact has long been recognized by the American College of Hospital Administrators. The hospital administrator of a pay hospital has to be a very different type of individual from one heading a state institution, where such institutions care for only non-pay patients. We surely would not expect a tubercular administrator to make a good medical administrator for a psychopathic institution.

The nurse administrator should have sufficient educational background to fill the position of superintendent of nurses, as a well-regulated training school fulfills a dual purpose insofar as education is concerned. These individuals cannot be trained overnight. Then it becomes your duty and mine to see that these people are trained or secured and placed in the right positions.

This same bill provides for a statewide prepayment plan for state hospitalization, and should include benefits for both medical and surgical care. We must as medical men recognize the fact that many people cannot pay for such services in a lump sum. We as medical men have been derelict in this phase of our medical leadership, because we are one of the very few states that does not have some kind of statewide program in operation. There are many states that have such programs well rounded and in full operation. We have hollooed "wolf" at the mention of socialized medicine, and overlooked the benefits of such a program, because we thought it might detract from our individual practice. If this were done, why should we not say the same thing about our ice boxes, our radios, and our cars; because many of the necessities of life are bought on such a plan—why not the most precious thing in life, health?

This same bill provides for medical scholarships for Mississippi boys and girls who might want to study medicine, but I ask you where, with many states closing their schools to all but bona fide residents of those states, will Mississippi boys and girls be able to find such a school?

This brings up for discussion the bill sponsored by former Governor White for a four-year medical school with a hospital of sufficient size to be used for a teaching institution. I don't believe anyone who is fair in his thinking will object (if and when this hospital is built) to have this hospital placed in Jackson so that all the surrounding hospital beds could be used for teaching. The medical school could then use both of the hospitals located in Jackson, the institution at Whitfield, and the one at Sanatorium. The Jefferson Medical College in Philadelphia, Pa., has just added the tubercular beds at White Haven, Pa., which are 100 miles away, to their teaching program. Time and distance have been so shortened this would not work any hardship in the transportation of students when the medical center is built, and I am sure all these beds could be worked into one teaching unit. This group of hospital beds could then be used for rotation in teaching both nurses and interns. The small hospitals in adjoining communities that are of sufficient size should be also incorporated in such a training program. If this procedure were followed many young professional people would form attachments and stay in the several communities where they get part of their training. This should be, and I am sure will be, the main function of our state medical school when it is built.

Now let's discuss for a few minutes the grant-of-aid feature of House Bill 430. This Bill provides that only 60 per cent of the cost and equipment of any such hospital shall be provided by the state, leaving 40 per cent to be provided by the local hospital district. The bill further provides that only 10 per cent of the available state funds shall be allocated to each of the seven congressional districts of the state the first year of the biennium following the appropriation. However, during the second year of the biennium the commission may allocate all monies available on a basis of need.

If federal legislation which is now pending passes, namely, Senate bill 191 (Hill-Burton bill), the federal government proposes to match three for one monies raised by any local hospital district. This of course would mean that the federal government would supply 75 per cent of the cost, the state 15 per cent, and the community or local hospital district 10 per cent. Under the Hill-Burton bill, or Senate bill 191, the management of the hospital is left almost entirely up to a board of trustees or governors for that individual hospital. At the present time, however, this pending legislation is snarled up in the House of the Congress, and Congressman Percy Priest of Tennessee has introduced a resolution which leaves the grant-of-aid feature almost intact, but transfers the operation of the hospitals from local authorities to U. S. Public Health Department. Therefore, I urge every doctor to take an active part in this program to see that his community gets a just break in the program and has the very best leadership available in that particular community. This will not happen if we pass the buck to someone else.

This brings us up to the point of what type of hospital should be built. The planning should be so done that future developments can be carried out without too much additional expense. Hospitals should be so constructed as to be in reality health centers, providing for public health facilities, welfare facilities, and hospital facilities. As you doctors well know, these three are so closely related in our complex system of medical care that one cannot be separated from the other. I also believe that in many communities, where the conditions permit, available space should be constructed for use as offices by medical men in that particular community in which the hospital is located. If this is done it will insure not only better care of patients, but will be a source of revenue for the institution. The overhead which causes financial disaster in most hosptals could in some measure be reduced by such an arrangement. It will be noted in all the bills passed by the legislature that there is no provision for maintenance or operation of this hospital system except through fees paid by the patients themselves and monies paid on a per diem rate for strictly charity patients if they are admitted to such institutions.

I am sure that many of you think it would be impossible for a group of physicians representing varied interests to maintain offices around a medical center. I believe that individual doctors will have to group themselves together for better medical care or we will certainly have some type of medical care set up with federal regulations. You may give this type of medical care any name you want to—socialized medicine, or any other term. I believe if the medical profession cannot work together for the common interest of themselves and of their patients—then, where the road leads to, your guess is as good as mine.

DISCUSSION

DR. ANDERSON (Booneville): I wish only to thank Dr. Shackelford and others for bringing to our attention this important matter in such a splendid manner. The house of delegates of the State Medical Association has gone on record more than one time unanimously favoring a four-year medical school. But when it came to passage of the bill in the legislature we seemed to have a divided house among the doctors to a certain degree. As a member of the Committee on Public Policy and Legislation I strove to carry out the wishes of the state association as expressed by the vote of the house of delegates and as an interested citizen reinforced these efforts. The fight in the legislature was not an easy one.

We think that even yet the medical profession that is needed, with an affiliated hospital system to aid the school in giving the very best medical service to be found in any state. Although we have been ridiculed for being a poor state with poor roads and so forth, we do lead in many things and we can be a leader in medical education and in medical service to the people if we live up to the possibilities of the legislation that has been passed. We must have the vision to see and the courage to go forward.

DR. F. J. UNDERWOOD (Jackson)—The provisions of House Bill 430, passed by the 1946 session of the Mississippi legislature, I consider not one but many milestones of progress in our building a hospital program for the people of Mississippi.

It will take at least ten or twelve years to do the job in a manner that will be satisfactory to the physicians and citizens of this state.

It will not be an overnight job. There will be criticisms and headaches but the job must and will be done in the proper way. The building, equipping and staffing as well as maintaining of our hospitals is of vital concern to all of our people.

In addition to the $5,000,000 provided by House Bill 430, other millions will be appropriated over the years. Not a dollar of this money will be frittered away on plans that are not safe and fair. So much depends upon the Hospital Commission to be appointed by the governor.

I have been impressed with the governor's stated desire to appoint as members of the Hospital Commission only persons who will be qualified to render the best services.

This initial appropriation of $5,000,000 is the beginning of plans for hospital services at a price people can afford to pay for all sections of the state.

In addition to the state appropriation, we have a right to expect federal assistance. Senate bill 191 (the Hill-Burton bill) has passed the Senate without opposition and hearings have been held by the House committee having it under consideration and it is hoped that before the adjournment of Congress the bill will be enacted into law. This bill will provide approximately two and one-half million dollars a year federal aid in the construction of hospitals and related facilities in our state.

As introduced, S. 191 requires a state plan to embody a hospital construction program which would be in accord with "standards" prescribed by the Surgeon General with the approval of the Federal Advisory Council. The Senate committee concluded that the independence of the states in carrying out their plans will be better preserved if the Congress specifies general requirements and limits the federal government's regulatory control to those requirements. These general requirements are set forth specifically in the amended bill. They relate in the main to the number and general manner of distribution of hospitals to be constructed under the program. The scope of the federal regulatory powers as contemplated by the requirements is entirely consistent, I believe, with effective federal accounting for appropriated moneys.

DR. HENRY BOSWELL (Sanatorium) — Dr. Shackelford covered the analysis of the present program. You are all familiar with the outline, as was introduced in the last legislature, for hospitalization and a medical school in Mississippi. In my discussion of this paper, I shall preface my remarks by saying that this program was finally passed on a sort of compromise basis—during the past year there have developed in Mississippi more "hospital experts" than I have ever heard of and there has been a great deal of confusion in regard to the hospital plan; however, there has been established a principle for hospitalization and once a principle has been established the plan can generally be carried out. The idea of a central hospital and medical school is the very foundation for the plan for hospitalization in our state. The idea originally was introduced under the so-called White bill, and the bill was introduced by Dr. Henry and Senator Porter in the senate. This provided for the establishment of a central institution to be known as the University Hospital, it was to be turned over to the University Medical School and was to be under its management. That hospital was intended not only to care for cases locally, but was to be a clearing-house for specialized cases which small institutions over the state could not handle; it was to be a teaching center for the four-year medical school. There was much opposition to a four-year medical school by many men over the state; why, I do not know. I am not a native of Mississippi, as you know, but I have seen Mississippi develop from a wilderness to what promises to be one of the greatest states of the Union. I have listened to people say we could not have "so-and-so" because we were "from Mississippi." The hospital program provides that we should have a teaching center where the medical profession could study and where the smaller institutions could be assisted. If we had done that, I am sure that the federal government would be ready to build immediately the type of veterans hospital in Mississippi which you have heard mentioned and in getting our hospitalization program started at once instead of having to wait two or three years. It will take one or two years to draw the plans, from one, two, three to four years to get started to get a twenty-five-year building program for Mississippi. The five million dollars appropriated is only the beginning—the whole program contemplates the expenditure of twenty to thirty millions of dollars to establish community hospitals wherever they are needed, but after careful study as to the necessity and ability to support as the bill stands it is merely a suggestion to the medical profession that we have a principle established whereby we can start accomplishing a little today and a little more tomorrow and in the next campaign for governor to establish a sound, sensible plan for a centrally located educational institution for medical students, nurses and postgraduates that will be as good as any in America. I am particularly interested in this plan because I have seen so few young men come back to our state.

I hope you gentlemen will study these bills and try to help in developing the plan for the principle on into what it should have been in the beginning and to give the people of this state and the medical profession something to work with and to accomplish scientific, life-saving work.

DR. W. H. FRIZELL (Brookhaven)—It has been said that doctors are politicians—but I think we are too frank to speak too plainly to be called politicians. We should strive to keep politics out of the plan for hospitalization and manage it along the line of our own organization. The medical profession, through this Association, should nominate a certain number of men from each district, from which group of men the governor shall appoint certain men, some medical and some business men, who know the needs of the hospitals, and let each management be under its own superintendent, appointed, say, for six years—long enough so that he can shape the policy of the institution. These hospitals should be fully staffed and equipped. We can meet the ordinary requirements for health in Mississippi if we can affect, through our organization, an amicable relationship between the management and the scientific staff. Some institutions in Mississippi have been made political footballs—some of the finest department heads we have have been put in this position and they will not stand such embarrassment any longer. I urge you to bring about, through legislation, the formation of a proper commission to handle these matters.

EDITOR'S NOTE: Since the reading of the above paper the following six-body State Hospital Commission has been appointed by Governor Thomas L. Bailey, with the essayist heading the group:

Dr. Lawson Shackelford of Laurel, formerly superintendent of the St. Catherine Hospital at West Palm Beach, Fla., and the Jefferson Hospital at Birmingham, Ala.

Other members will be Jackson Montgomery of Inverness, planter; J. O. Slaughter, Columbus business man; Owen Cooper of Jackson, head of the State Farm Bureau; Carl Blomquist, Port Gibson manufacturer, and Dr. Henry Boswell, superintendent of the State Sanatorium.

The powerful commission is charged with carrying out the state legislature's program for selecting sites for new district hospitals, working with the Medical Education Board in assignment of out-of-state medical school scholarships, and aiding in the ultimate establishment of a four-year medical school in Mississippi.

The commission will appoint an advisory group to help with the work.

The Commission has a great duty to perform. The eyes of this state are upon it. We are sure that some of these men are among the very best who could have been found in the state. But the rank and file of the doctors, the practitioners who have held the lines for many years, who stood by the people in the small town and rural community, are not represented on this Commission. The doctors who actually do the practice should and do know better than others what is needed in a medical school and in a hospital system; hence, to leave this patriotic and self-sacrificing body of men out is all but an insult. But this aggregate group will stay in the fight for the right kind of medical school and hospital service as it did for the per capita distribution of funds for the indigent sick—which political bosses blocked for fifteen years and then claimed the credit for its passage. This body of practitioners, inspired with a vision of service, stands by ready to aid in every way to give all the people of our state the very best medical service possible.

The Mississippi Doctor

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The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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TO MEET THE CHALLENGE

In this state balancing agriculture with industry is a good gospel of economics and a fine promoter of better health conditions. About the most important question before the people of Mississippi at this time is that of balancing a four-year medical school with a good hospital system in Mississippi, a large part of which we already have. The driving power, the heart and soul of our hospital system, should be a four-year medical school. The challenge to both the medical school and the hospital system is medical service to all the people in our state. Eighty-five per cent of our doctors should be able to take care of eighty-five per cent of the practice in our state. In the training of both doctors and nurses the large medical centers have gone in for superspecialization. The tendencies on the part of the people and the profession are in this direction. But we still believe there is room for the good average practitioner who gives attention to the patient as well as the disease to be treated, and whose purpose is to build health assets, mental, moral, and spiritual.

SERVICE FOR VETERANS

The most important piece of medical economy before us now would be for the government to permit the veterans to whom it is obligated to treat when sick, go to their home doctor and to their home hospital, to the doctor of their choice and to the hospital of their choice. Their bill might then be paid by the government. The veterans hospitals are not popular with the veterans as a rule. They represent state medicine in a pretty rank form. They are not good medical economy for the sick veteran or the government. If these veterans were permitted to go to the doctor of their choice and to the hospital of their choice, the small hospital and the doctor in the small town would soon be doing well. The government would save money, the ex-soldier would be better pleased, and the social and economical problems of the rural community and small town would soon be very largely solved. This plan would be a great protection to the sacred tie between the doctor and the patient. It would be a powerful force in carrying the best in medicine to all the people. It would be a great help in the proper distribution of doctors and hospitals. It would help to place service above politics.

Some of our good friends have expressed the desire that our journal be sent to every doctor in the state regardless of whether he is a member of the state association or not. We would be glad to do our part along this line. It would be a laudable service.

The shortage of nurses is rapidly becoming alarming as well as that of doctors. With a central hospital for the last year, Mississippi could have the best training system for nurses and interns in the nation. It is just as important for nurses to have a part of their training in the small hospital with limited facilities as it is to have a part of it in the elaborately equipped hospital. We need balanced training right now for the average nurse and the average doctor, and for the average citizen, who, after all, keeps the world rolling.

Three or four five-hundred-bed hospitals for this state now is just as senseless a proposition as the one who suggested them.

Blue Cross Insurance is on its way. It is covering the United States like the waves of radio. It is serving a great purpose. With the Blue Cross functioning in Mississippi, the state and national government taking care of the charity, and very low income group paying the doctor a reasonable fee for his services, we will be well on the way to good medical service to all people in our state.

It is of statewide interest that C. Rufus Rorem, director of the Blue Cross Commission of the American Hospital Association, will address our state hospital association at Edgewater Gulf Hotel at its annual meeting, October 17-19. He will discuss Blue Cross Hospital Service Plans.

As times goes on the need for a Secretary of Health in the President's Cabinet is more urgent. We should not wait longer for this needed service. The South could furnish three good men that we have in mind right now for this important post—Seale Harris of Birmingham, Felix Underwood of Jackson, Miss., or Ed Carey of Dallas, Texas.

The small general hospital is growing in favor with the people and is beginning to be recognized for its social and economical value in human affairs. Quarantine is rapidly going out of style as is the building of separate hospitals for contagious disease. A big percentage of our tubercular cases will soon be handled in the small general hospital by a system of consultation service, with the central institution, coöperating with the small hospital where special attention can be given to this type of case. This forward march in medicine should be well considered by our hospital commission. The very best medical service in existence went out to the jungles of the South Pacific during the last war, and to say that this can not be carried out to the people by way of the small hospital is a fallacy. It can be done and it will be, regardless of the selfish politicians or fossilized leaders in the medical profession.

The time is near at hand when the doctor must be paid a reasonable fee for his service to the charity patient. This will have a powerful influence in the distribution of doctors and nurses and hospitals into the rural communities where they must go.

We are very grateful to all of our advertisers. Everything else being equal, please buy from the men who advertise with us. This will be a helpful courtesy to your journal.

Thanks to Dr. D. H. Thornhill of Crosby and Dr. F. L. Butler of McComb for reports of fine medical meetings. A good paper read at a local society should be sent to the editor. We want your help to make the *Mississippi Doctor* the most helpful journal in the country.

Our state needs more training schools for nurses, schools that will train just good all-'round nurses to take care of sick patients. The small hospital can not be surpassed for this service.

The Baptist Hospital at Memphis is a great institution and we trust that every problem will be ironed out, while it grows in favor and in its mission to serve sick people. Too many hospitals in our country are shackeled with favoritism.

Our ideas of sanatorium treatment are changing. Perhaps the most important change is the gradual realization of the influence of mental and emotional factors upon organic disease. For too many years, attention has been focused on the organ in which tuberculosis disease developed, and physicians have ignored the fact that tuberculosis patients are also human beings. Contributing to this attitude has been the false assumption that tuberculosis persons are always cheerful, happy, and hopeful of the future. —Annual Report, Cattaraugus Co. (N.Y.) Health Department.

What are the essentials of a program for the eradication of tuberculosis? First, a medical profession interested in the problem and familiar with modern methods of diagnosis and treatment. Next, complete diagnostic x-ray and laboratory facilities freely available to all physicians in a community and to the health department, regardless of the patient's ability to pay. Third, and equally important, a well-organized active health department with complete family records of all cases and a public health nursing service capable of teaching preventive measures in the home and maintaining effective contact between patient, doctor and health department. —COMMONWEALTH. FUND

News and Comment

MEETING OF SOUTHERN MEDICAL ASSOCIATION

The Miami meeting of the Southern Medical Association will open at noon on Monday, November 4, the scientific sessions beginning at 2:00 p. m. and will continue through Thursday afternoon, November 7. The general headquarters (registration, information, etc.), scientific, hobby and technical exhibits and some sessions will be at the Municipal Auditorium in Bayfront Park on Biscayune Boulevard. The remainder of the scientific sessions will be in the bayfront hotels near the auditorium. The McAllister is general hotel headquarters.

THE FIELD MEMORIAL COMMUNITY HOSPITAL

The Amite-Wilkinson Counties Medical Society of which Dr. W. T. Thornhill of Crosby is president, assembled at the Field Memorial Community Hospital at Centreville on Thursday evening, June 18, for the regular quarterly meeting. A good attendance was significant of the interest in the organization. The wives of the members of the society and the guests—Dr. and Mrs. Paul Jackson of Clinton, Louisiana, and Dr. Brown, a recent addition to the profession at Liberty, added zest to the occasion. Matters of importance to the society as well as a number of difficult professional problems were discussed and solved.

Immediately following adjournment of the society a meeting of the staff of the Field Memorial Community Hospital was called, of which body Dr. R. J. Field is chairman, Dr. S. E. Field, secretary and Miss Boles, superintendent and business manager. The balance of the staff is composed of the members of the bi-county society.

On February 1, 1946, the Field Memorial Hospital, which had served the two counties, Amite and Wilkinson, faithfully and well for many years, was closed for reasons entirely beyond control of the management.

On March 1, 1946, the institution reopened as the Field Memorial Community Hospital under the auspices and financial coöperation of the two counties, Amite and Wilkinson, to which all property and equipment was donated by the Field brothers; a magnanimous personal contribution to the service and welfare of the communities they have served so efficiently in the past. Plans for extensive enlargement and re-equipment are now in progress which, after completion, will place this institution well up at the head of the list of the very best hospitals in the state.

MISSISSIPPI DIVISION AMERICAN CANCER SOCIETY

Included in the by-laws of the American Cancer Society, Mississippi Division, which assumes responsibility in carrying out the objectives of the American Cancer Society and its Field Army, the following were adopted May 13, 1946, by the state organization:

1. To collect, collate, and disseminate information concerning the symptoms, diagnosis and treatment of cancer.

2. To investigate the conditions under which cancer is found and to compile statistics in regard thereto.

3. To organize and administer the Field Army which shall be the official avenue of approach to the general public in such phases of the work as are delegated to it by the Board of Directors of the Division.

4. To aid voluntarily, in coöperation with licensed physicians and the State Board of Health, indigent cancer cases in securing adequate information, diagnosis and/or treatment (including hospitalization and medical care.)

5. To assist voluntarily in the establishment, development, equipment, or maintenance of hospitals, clinics, laboratories, or other facilities for the care of cancer cases.

6. To carry on any other activities which may contribute to the control of cancer, except the actual ownership or operation of hospitals, clinics, laboratories, or other facilities for the treatment of cancer cases.

7. To assist with the establishment of diagnostic centers with approval of State Board of Health and the medical societies.

8. To maintain a state headquarters and a full-time office with a state commander in charge.

9. To correlate this program with the cancer control program of the American Cancer Society, the Mississippi State Medical Society, and the State Departments of Public Health, Education, and Welfare; and to work in coöperation with these organizations and agencies.

10. To conduct an annual campaign for funds for cancer, education and service.

11. To make an annual report to the American Cancer Society on forms provided for that purpose.

Mrs. Elizabeth N. Wates is state commander, and Dr. Felix J. Underwood is chairman of the state executive committee.

TO COMBAT PROPAGANDA

The National Society for Medical Research, a clearing house for information on medical studies and discoveries, has been organized under the sponsorship of the Association of American Medical Colleges with the coöperation of 101 national scientific organizations. Offices are at 25 East Washington Street, Chicago, Illinois.

NSPB

The National Society for the Prevention of Blindness, 1790 Broadway, New York 19, New York, announces that it will hold a three-day conference November 25, 26, and 27, 1946, at the Hotel Pennsylvania, New York, N. Y.

NEW ORLEANS MEDIC ADDRESSES PIKE SOCIETY

The Pike County Medical Society held its regular meeting in the Palm Room of the McColgan Hotel in McComb on the evening of July 18.

Following a chicken dinner a short business session was held with Dr. L. W. Brock, president, presiding.

After the business session Dr. A. V. Beacham, of Magnolia, presented the guest speaker, Dr. Conrad Collins, head of the Department of Gynecology at Tulane University School of Medicine, New Orleans, La. Dr. Collins presented a most informative paper, accompanied by lantern slides and motion pictures, on several complications in obstetrics and gynecology to the following guests and members.

Drs. Conrad Collins and R. F. Zeigler of New Orleans, La.; Dr. D. H. Thornhill of Crosby, Miss.; Dr. Otis Biggs of Osyka, Miss.; Drs. J. M. Smith, A. V. Beacham, and Dan Beacham of Magnolia, Miss.; Drs. W. F. Cotten, L. W. Brock, F. L. Butler, B. J. Hewitt, A. W. Navin, Thomas Purser, Sr., Thomas Purser, Jr., and R. H. Brumfield of McComb, Miss.

MISSISSIPPI VALLEY MEDICAL SOCIETY

The eleventh annual meeting of the Mississippi Valley Medical Society at the Jefferson Hotel, St. Louis, September 25-27, will have over thirty-five clinicians as speakers.

The third annual meeting of the Mississippi Valley Medical Editor's Association will be held at the Jefferson Hotel, St. Louis, September 25. It will be an evening dinner meeting, held during the annual meeting of the Mississippi Valley Medical Society.

A detailed program may be secured from the president, Dr. James Dunn, First National Bank Building, Davenport, Iowa, or the secretary, Dr. Harold Swanberg, W.C.U. Building, Quincy, Illinois.

ANNOUNCEMENTS

G. Brainard Higley, M.D., F.A.C.S., diplomate American Board of Orthopedic Surgery, announces the opening of his office at 1073 Madison Avenue, Memphis, Tenn., practice limited to orthopedic surgery.

The New Orleans Medical Foundation announces the opening of the Lakeshore Hospital. This is a 500-bed general hospital with complete modern facilities located in quiet, healthful surroundings, on Lake Shore Drive and West End Boulevard, New Orleans, Louisiana. Dr. Charles B. Odom is president of the New Orleans Medical Foundation, and Mr. Evert E. Moody is director of Lakeshore Hospital.

During the period of the war, there occurred in the United States more than two deaths from tuberculosis for every three lives lost in combat by the armed forces of the United States. —PUBLIC HEALTH REPORTS

A consultation service from the four-year medical school out to the community hospital is the order of the day.

SMALL HOSPITAL available immediately to doctor interested in taking charge. Excellent opportunity and permanent arrangement. Owner seriously ill. Call Mrs. D .L. Stevenson, Lumberton, Mississippi, for information.

Book Reviews

Medical Education and the Changing Order, by Raymond B. Allen, M.D., Ph.D., University of Illinois, Chicago, Ill., published by the Commonwealth Fund, 41 East 57th Street, New York, N. Y.; 142 pp. Price $1.50.

The author's purpose in correlating this excellent series of monographs under one cover is to make a plea for a broadened outlook and adjusted educational program for medicine. He compares it to a social science which is coming of age in society, its birth and infancy clothed in respectability and even veneration, its progress to majority blessed with tolerance and special privileges. The book could not fail to be of particular interest to every practitioner of medicine, and of stabilizing value to every medical student. It reveals the heart of the culture which has, does, and will continue to make the profession great. "Any sound plan of medical education must embrace the entire educational experience from childhood to retirement from practice," he avers in discussing preparation for medical study, and the need for a better understanding of the major medical problems of today in relation to new social patterns.

Terse, up-to-date in purpose and thinking, this book is a challenge to the medical profession. Its data are worth reading and considering.

Synopsis of Pathology, by W. A. D. Anderson, M.A., M.D., F.A.C.P., Professor of Pathology and Bacteriology, Marquette University School of Medicine, Milwaukee, Wis., 741 pp., including index, 327 text illustrations and 15 color plates. Published by C. V. Mosby Company, St. Louis, Mo. Price, $6.00.

The doctor who has been collecting the handy volumes which Mosby has offered for several years as a synopsis library will welcome Dr. Anderson's second edition of *Synopsis of Pathology.* This book presents the foundation sciences in a usable form for student or clinician. It is not written primarily for the pathologist, but for the busy doctor who remains a student of medicine and strives to keep informed on the newer details and variations in the patterns of disease. The volume has brought up to date chapters on tropical diseases and infections. Also the chapters on inflammation, the lung, and the nervous system are extensively revised.

Synopsis of Pathology will come nearer answering the practitioner's need of a ready reference for a condensed presentation of pathology than any recently published volume on the subject.

Women in Industry, Their Health and Efficiency, by Anna M. Baetjer, Sc. D., Assistant Professor of Physiological Hygiene, School of Hygiene and Public Health, Johns Hopkins University. Published by W. B. Saunders Company, Philadelphia, Pa. 344 pp. Price $4.00.

With the call for women to take millions of places in industry during the war, a new employment problem evolved. Selective placement is the plausible procedure. And industrial physicians are playing an important role in this selection. An appraisal of the emotional, physical, and mental characteristics of an applicant, with relation to the job wanted, determines capacity and fitness for a job. Dr. Baetjer has therefore compiled some excellent information for use in the field of occupational health, her findings being of equal importance to the physician and the industrial personnel supervisor.

The five sections deal with the physical ability of women to work, in relation to types and conditions of work; comparative data on sick-absenteeism among women employees; accidental injuries to working women; occupational diseases; gynecological and obstetrical problems associated with the employment of women; mortality and fertility of women in relation to occupation.

In the light of the increasing changes in the modern pattern of life, with its neuroses and occupational disorders, *Women in Industry* will answer a need for almost every physician in general practice in a section where small industrial plants have become a part of the community set-up.

Synopsis of Clinical Syphilis, by James Kirby Howles, B.S., M.D., M.M.S., Professor of Dermatology and Syphilology, Louisiana State University School of Medicine, New Orleans, La. Published by the C. V. Mosby Company, St. Louis. 671 pp., including 121 text illustrations and two color plates. Price $6.00.

The author bravely prefaces his *Clinical Syphilis* with the promise that the disease requires a knowledge of the whole field of medicine, and that a synopsis presumes to compress all of medicine between the covers of a book of limited size. Dr. Howles' approach to his task warrants trust in his wisdom, and the volume itself is proof of the author's skill in using his knowledge. Syphilis, like the poor, the doctor always has with him. This concise, illustrated book is therefore a valuable and convenient adjunct to the daily practice of medicine. For the student or the man in general practice, it might well be a must.

Three sections of the volume divide the subject into general considerations of syphilis, systemic and regional syphilis, and the familial and public health aspects of syphilis. Further breaking down takes up the pathologic process, stages, diagnosis, treatment, acquired, congenital, social phases of transmission, etc. A complete reference follows historical data. This little book deserves a place along with the other Mosby synopses.

The Management of Fractures, Dislocations, and Sprains, by John Albert Key, B.S., M.D., St. Louis. Mo., and H. Earle Conwell, M.D., F.A.C.S., Birmingham, Ala. Published by the C. V. Mosby Company. St. Louis, Mo., fourth edition. 1322 pp., 1316 illustrations. Price $12.50.

The new Key and Conwell revised edition on the *Management of Fractures, Dislocations and Sprains* is off the press, bringing with it new methods of treating injuries of the bones and joints, lessons learned from the treatment of injuries incident to the war. Other important changes have been made in the sections on the spine, the hip, and on compound fractures.

The authors have given such complete coverage to their subject in previous editions, the value of the book is already fully appreciated by the profession. The surgeon, the practitioner, and the student may still find no better practical working guide in the management of fractures, dislocations, and sprains. Chapters on the medicolegal aspects, on the handling of injuries which will be involved in damage suits, emergency treatment, the place of the sulfa drug, and fractures requiring the attention of a specialist, are detailed and comprehensive enough to meet the demands caused by industrial and machine age casualties.

Two parts divide the contents into principles and general aspects of fractures, and diagnosis and treatment of specific injuries. From first aid to difficult skull and brain cases, the authors are expert in presenting technics and methods, anatomical considerations, and treatment.

Deaths

DR. D. L. WALKER

Dryden L. Walker, 71, one of the most prominent citizens of Meridian and Lauderdale County, died of a heart attack July 8 at Riley's Hospital.

Dr. Walker attended the University of Alabama Medical School, graduating there in 1904. He has practiced medicine in Meridian and surrounding territory since that time.

Dr. Walker was a member of the 15th Avenue Baptist Church; the Southern Medical Association; East Mississippi Medical Society; Theta Kappa Psi Medical fraternity, a veteran of the Spanish-American War, captain of the Medical Corps in World War I, and honorary member of the Meridian fire department. He is survived by a daughter and two sons.

DR. C. L. HORTON

Dr. Clarence Lester Horton died at his home in Bay St. Louis June 21, following a fall sustained while paying a professional visit, and from which he never regained consciousness.

Dr. Horton was born at Pleasant Ridge, Alabama, on October 7, 1866. He received his Bachelor of Arts degree from the University of Alabama, at Tuscaloosa. He then entered Tulane University, New Orleans, Louisiana, from which institution he received his degree in medicine. He interned at Charity Hospital. He then went to Europe to complete his studies and received his Doctor's degree in Vienna, following which he further pursued his studies in Berlin, Germany.

He had been a resident of Bay St. Louis for thirty-two years, and had practiced his profession here during that period of time. He was the physician of St. Joseph Academy and St. Stanislaus. He was also the physician of the Louisville and Nashville Railroad for the New Orleans and Mobile Division. He was a member of the staff of the Kings Daughters Hospital.

He is survived by his wife, the former Miss Cora Schriever, a daughter, Mrs. Roland R. Webb, of Vicksburg, Miss., and a son, Geo. S. Horton, of Bay St. Louis, and by four grandchildren, Sylvia and Carol Horton and C. L. Horton and Roland R. Webb, Jr.

DR. DOYLE SEWARD

Dr. Doyle Seward, 63-year-old prominent retired physician of Yazoo City died suddenly at Boothbay Harbor, Maine, where he was vacationing, July 18. Services were conducted from the First Presbyterian Church upon arrival of the body by plane.

Born at Chester, Miss., in 1882, he began his career in the practice of medicine in 1905, at Eden, Miss. Dr. Seward was a deacon of the Presbyterian church and a member of the Elks club. He was a graduate of Jefferson Medical College, Philadelphia, Pa., 1882.

He leaves his wife., Mrs. Jeanniette Cramer Seward; two daughters. Mrs. Tom Hendricks, and Mrs. R. J. Moorehead, one son, E. R. Seward and seven grandchildren, Jeannette Hendricks, Miriam Hendricks, Doyle Moorehead, Sandra Seward, Martha Ellington Seward. and E. R. Seward, Jr., all of Yazoo City.

DR. W. S. LAWRENCE

Dr. Walter Sibley Lawrence, who pioneered in the practice of radiology and x-ray work in Memphis and was, for twenty-five years, professor of radiology at the University of Tennessee College of Medicine, died July 6 at his home after almost two years' illness. He was seventy-seven.

Born in Cambridge, England, Dr. Lawrence moved to Stanton, Va., when he was twelve. His father, Rev. J. P. Lawrence, served as an Episcopal minister there. Dr. Lawrence was graduated from Vanderbilt University in 1900.

He opened offices in Memphis in 1905 and maintained offices in the Medical Arts Building.

He was a lifetime member of the American Roentgen Ray Society, the Memphis and Shelby County Medical Society and the Tennessee Medical Society and American College of Radiology.

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Public Health—Felix J. Underwood, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Pathology—R. M. Moore, Vicksburg, Miss.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

DERMATOLOGY

PYODERMA IN INFECTED WOUNDS, P. Colemba and A. Kostarev, Sovet. med. 10:19 (Nov.) 1943.

Volume 53, Number 2, February, 1946, Page No. 139.

In the pathogenesis of pyogenic infections of the skin an important factor is the presence of multiple minute breaks in the epidermis. These breaks constitute an invitation to pyogenic infection of the wounds.

There is a certain succession in the appearance of micro-organisms in the wounds. First, only anaerobes can be found; later, Escherichia coli, and after two or three weeks, streptococci and staphylococci. Consequently, the development of the pyogenic flora reaches its high peak not immediately after the wound is infected but after several weeks.

The authors introduced an ointment which they assert will prevent the invasion of pyogenic micro-organisms, consists of 3 per cent rectified oil of birch tar in equal parts of solution of calcium hydroxide and olive oil or any other vegetable oil. By repeating the procedure over one thousand times in over 200 cases, the authors verified the high efficacy of any good tolerance to this ointment.

PEDIATRICS

CONGENITAL DEFECTS FOLLOWING MATERNAL RUBELLA—Conte, W. R., McCammon, C. S. and Christie, Amos—American Journal of Diseases of Children, 70:301 (November-December) 1945.

"To date, 136 cases of congenital anomalies have been reported in the literature in which a definite history of a virus infection in the mothers during their pregnancy has been obtained. 'In all but two of these cases the offending virus disease has been rubella. In these two exceptions the diseases were mumps and influenza. In all remaining cases the rubella occurred before the third month of pregnancy, with the exception of three, in which the rubella occurred in the fourth, fifth and sixth months. The congenital anomalies described in these cases are varied. In the total of 136 cases, 80 per cent of the offspring had either unilateral or bilateral cataracts; 62 per cent were found to be mentally deficient; 57 per cent were found to have heart disease; 54 per cent of the total were shown to have the combination of cataracts and heart disease. Other anomalies found in the series were deaf-mutism, mental deficiency, microcephaly, hypospadias, microphthalmus and obliteration of the bile ducts.

"Twenty additional cases of maternal rubella without congenital malformation in the infant have been reported. In four of these the rubella occurred in the third month of pregnancy and in the remaining sixteen cases it occurred after this.

"Seven cases of maternal morbilli (rubeola) without a history of congenital malformation in the infant have been reported in the literature.'

"Five additional cases from the writers' own hospital records, of maternal rubella and congenital abnormalities of the offspring, are reported, in four of which the maternal rubella is noted in the first trimester of pregnancy. 'The four infants had congenital heart malformations and mental deficiency, and three had congenital cataracts. In the fifth case the mother had rubella at seven months of gestation, and congenital cataracts and cerebral aplasia were noted in the infant.

"Additional evidence showing that the time of infection and the type of virus disease are important in the outcome of pregnancy is presented as follows: A case of a normal child is reported whose mother had rubella in the ninth month of pregnancy. In one case maternal mumps occurred in the eighth month of pregnancy, and in one case maternal varicella occurred in the first month of pregnancy. Both children were normal.'

"Further evidence to support the fact that rubella in pregnancy is a predisposing cause of congenital malformation was suggested by a further survey of the writers' records as follows: 'Maternal rubella was noted in 4.2 per cent of the cases of congenital abnormalities surveyed. This exceeds by at least ten times the actual case rate of maternal rubella for the childbearing age group in the population at large.'

"These associations furnish additional evidence that environmental factors operating for the first time after fertilization of an ovum can cause congenital abnormalities."

COMMENT: With the knowledge and recognition of the existence of such conditions occurring in the presence of German measles. it is hoped that we may be able to prevent the occurrence of these unfortunate conditions in the offspring, and for this reason this abstract is presented to the medical profession of this state at this time.

State Board of Health

Felix J. Underwood, M.D.

PROGRESS OF COUNTY HEALTH WORK IN MISSISSIPPI

By J. A. MILNE, M.D.

It is the immediate objective of the State Board of Health to have full-time health services in each of the eighty-two counties. In preparing budgets for the fiscal year beginning July 1, 1946, funds were provided to institute such health services as rapidly as possible in each one of the remaining seventeen counties having only part-time services. The ideal in health planning is to have a full and complete health department with all essential personnel when first initiating full-time services for a county. However, recruitment of well-trained public health workers for all areas of need has been exceedingly difficult, therefore it has seemed that the next best course to follow is to obtain as many of the different types of professionally trained personnel as might become available and assign them to the counties so that gradually a complete unit will be developed. Every attempt is being made to have at least a full-time sanitation supervisor in each of the seventeen counties by 1947, and medical, nursing and clerical services will be made available as promptly as possible. Additional health services, with supervision from the State Board of Health, will also be extended.

Tuberculosis control has always been recognized as an important function of county health departments. An increase in federal funds has assisted in making available to the counties the necessary equipment for carrying out an early case-finding program. With repeated emphasis on early diagnosis by state public health personnel, a great deal of progress has been made in the counties in getting underway a constructive tuberculosis control program.

Coincident with the establishment of public health treatment centers, a decided change in the treatment program of venereal disease was instituted. As the units increased in bed capacity, it was possible for them to care for and to treat all stages of syphilis, with the exception of cases involving the cardiovascular system. An even greater change in the local program came into being. It meant that the local health departments could emphasize greater use of primary diagnostic centers and that the weight of the control program could be placed on discovering cases rather than to spend a disproportionate amount of time on routine treatment of the already known cases. It has become increasingly apparent in several counties that the new program is working effectively in reducing the morbidity from syphilis with the availability of adequate supplies of penicillin to the county health departments, increasing emphasis is being placed on the control of gonorrhea.

The Children's Bureau, through the Emergency Maternity Infant Care program, has made funds available through the State Board of Health to care for the expectant mothers and infants of service men. There were some good results from this program, and many mothers who might not have been able to have the full benefits of proper medical and hospital care otherwise have received an education as to the value of such services and will continue to seek them in the future. With the war's end has come some reduction in the demands for these services through the Maternal and Child Health Division. It has been noticed, however, that the emphasis which had been placed on regular maternity and infant care is now being reflected by the great number of those needing this service coming to the health departments for periodic examinations and follow-up.

During the past several years, considerable emphasis has been placed upon the employment of professionally trained health educators to aid in carrying out the full objectives of the public health program. The value of such assistance is widely recognized and requests for the employment of these workers far exceed the number available for employment. The coordinated School Health-Nutrition program, administered jointly by the State Board of Health and the State Department of Education, has meant a great deal toward a better understanding of educators' and public health workers' mutual problems in the field of health education. Professionally trained people, conducting workshops in the colleges and schools throughout the state, have been achieving gratifying success in carrying out this unified program.

The legislature has made available funds for assisting communities in malaria and typhus fever programs. It will mean a great deal to rid the state of these two disease plagues. The money appropriated will be spent in a coöperative program with the counties and municipalities in employing workers competent to conduct such a program and in purchasing necessary equipment and supplies for the control of mosquitoes and rats. In appropriating these funds, a primary aim of the legislature was to stimulate greater interest and activity on the part of the communities themselves in the control of these two diseases.

In the sanitation program, local health departments are still experiencing great difficulty in securing equipment and supplies needed in the construction of septic tanks, privies, and other community facilities. The same is true with regard to municipalities securing equipment and supplies for extending water and sewage facilities. As the general production picture becomes brighter, it is hoped that these conditions will be alleviated and further improvements can be made for the protection of the public health.

Vital Statistics

During the past year several important changes have come about in Vital Statistics, according to Dr. R. N. Whitfield, director of the division.

First, the end of the war has caused a decrease in the requests for birth records. And yet, as a result of the war the division is still issuing between 4,000 and 5,000 certified copies of birth and death records every month — about 90 per cent of this total being for birth records.

With the war's end, the personnel in the division has been reduced 40 per cent, although there is every indication that the work will continue on the present level for many months to come.

Experience gained during the emergency pointed up again the necessity for improving the quality and percentage of registration of vital records of all Mississippians: first, to enable the division to provide at any time a complete and accurate record of any applicant; and second, to have proper records for the formulation of accurate vital statistics to guide in the development of the best public health program possible. The weaknesses and strength of a public health program can often be determined through careful study of vital statistics; consequently their accuracy is very important.

During the past year a total of 54,165 births, 19,091 deaths, and 44,868 marriages were registered in the Division of Vital Statistics. These figures represent a decline of approximately 1,500 deaths under the previous year, a drop of 2,700 in births and over 1,000 fewer marriages than occurred in 1944. Marriage and birth rates have been very high during the war period. No epidemics of any proportion were observed during the year and the statistics on the whole reflect that healthful conditions prevailed throughout the state. The death rate for 1945 is the second lowest in the past ten years.

There was a marked decrease in deaths from tuberculosis and also certain other communicable diseases. However, there was a slight increase in the number of typhoid fever deaths—from 15 in 1944 to 23 in 1945; an increase in diphtheria deaths from 34 to 40; and a slight increase in the number of deaths from poliomyelitis. The fact that we still have deaths from typhoid fever and from diphtheria should alert every physician and health worker to put into effect measures of prevention wherever they are indicated.

Increases were noted in the number of deaths from cancer and from heart disease. Undoubtedly, there are measures of prevention which might be effectively applied in these conditions, which would help to reduce this steadily mounting toll of life each year. It is a problem to which must be given the best efforts of the medical and public health professions before any significant advances can be made in defeating these enemies of health.

PREVALENCE OF COMMUNICABLE DISEASES IN MISSISSIPPI

	May 1946	May 1945	May Five-Yr. Average
Acute Poliomyelitis	7	2	4.4
Bacillary Dysentery	1077	965	1222.2
Dengue	0	0	2.6
Diphtheria	27	19	21.4
Influenza	1806	1632	1659.0
Measles	2416	2425	1988.6
Meningococcus Meningitis	10	8	20.0
Other Forms Meningitis	4	2	4.4
Pellagra	198	169	252.6
Pneumonia	1007	924	837.8
Pulmonary Tuberculosis	176	139	155.2
Scarlet Fever	29	47	27.2
Smallpox	0	0	1.6
Tularemia	8	2	7.4
Typhoid Fever	6	7	8.2
Typhus Fever	7	9	6.2
Undulant Fever	6	2	3.4
Whooping Cough	791	843	1217.8

Woman's Auxiliary

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HELP REQUESTED

Wives of Mississippi physicians are urged to coöperate with Dr. G. S. Bryan in compiling the photographs and pertinent data of their husbands. Dr. Bryan will assemble and catalog this material, ultimately to consign it to the State Department of Archives and History.

Auxiliary members, this is a worthy little piece of work to do this summer. Send your husband's photograph and biographical data to Dr. G. S. Bryan, Amory, Miss.

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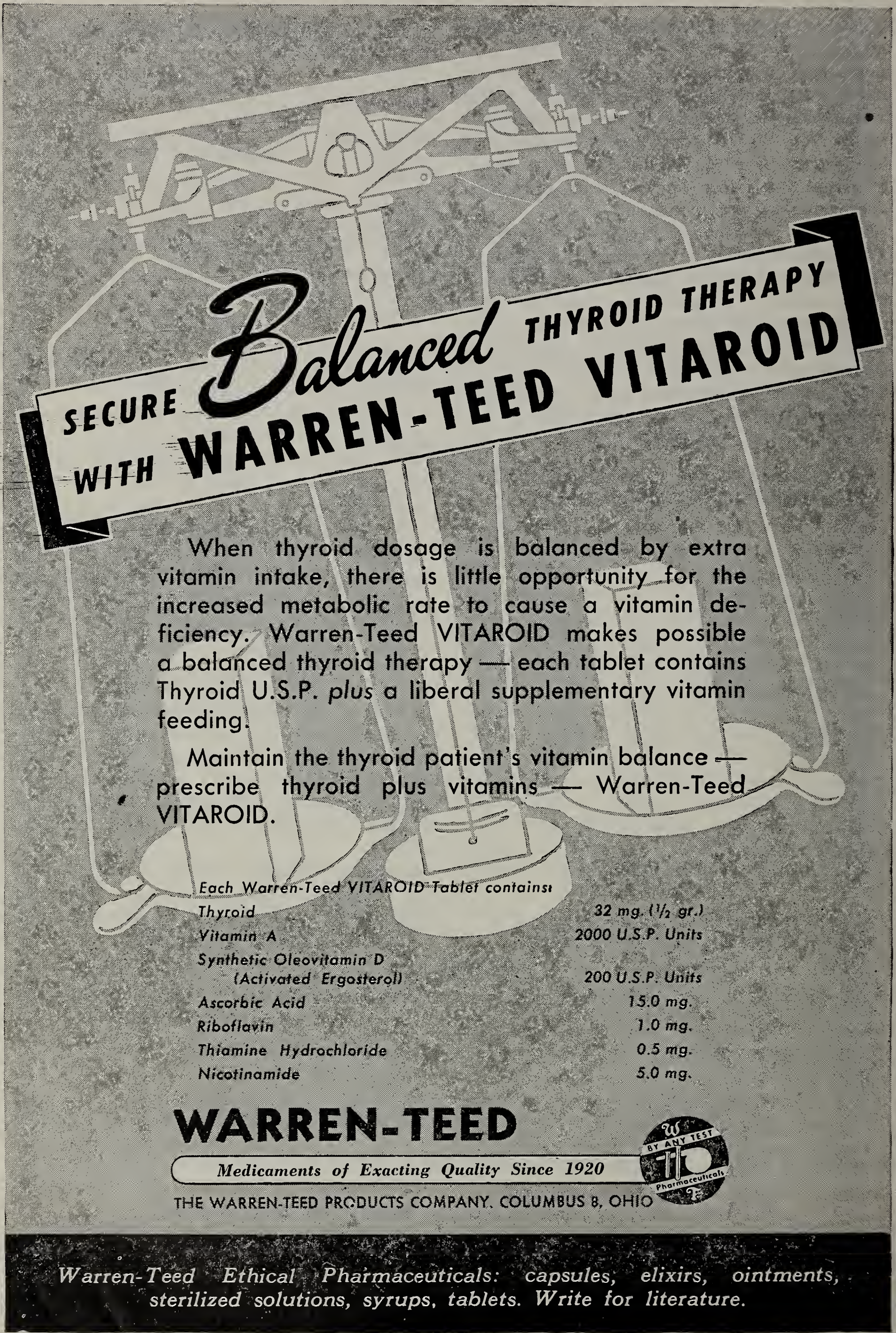

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Some Findings In Physical Examinations
A Preliminary Report*

OSCAR W. BETHEA, M.D.

New Orleans, La.

Some Unimportant Cardiac Defects

For more than nineteen years the student nurses of the Southern Baptist Hospital had been under my professional care when I resigned this work last summer. A part of this service was a general physical examination of all applicants before acceptance by the hospital, an annual examination during their stay, and a final study before graduation. Before presenting themselves for definite consideration, each applicant was required to send a report by her local physician of his thorough examination. These reports were carefully studied and only those who were apparently in excellent condition were allowed to present themselves as candidates for enrollment. Our groups were, therefore, hand picked and above the average before they came to me for examination, which was before they were shifted from probation to regularly accepted students. I am not discussing here the x-ray studies and laboratory work or other routine studies made before admission of each student by an orthopedist and an eye, ear, nose and throat specialist, other specialists being called in as needed. We are concerned here only with the heart.

My examinations were made at night under ideal conditions of quiet and comfort. A somewhat isolated pair of operating rooms on the eighth floor was always used and that section was kept as quiet as possible. With the assistance of two graduate nurses the patients were properly prepared so that the chest was satisfactorily exposed. The examining rooms were properly warmed in cold weather and fairly cool in summer. If the skin was moist or sticky, talcum powder was used after careful drying. Every effort was made to allay excitement or nervous tension. If the findings were uncertain, the examination was repeated a few nights later. A Bowles stethoscope was used routinely though a bell instrument was always available for use as indicated. The cardiac area was examined usually in both the sitting and the reclining positions—first during normal respiratory movements, then each valve area auscultated with the respiration halted at the end of a normal exhalation. All findings at every examination were fully recorded and compared with the results of the preceding examinations, if any.

For this preliminary report I have selected the records of 139 consecutive applicants to our nursing school. Of these, six went home for various reasons before reaching my examination room. The remaining 133 presented the following cardiac findings:

39 cardiac murmurs
1 murmur and thrill
8 murmurs and reduplications
1 murmur, thrill and reduplication
2 murmur and ventricular premature contractions
2 gallop rhythms
2 tick-tock rhythms
3 accentuations of a second sound
66 therefore showed abnormal hearts on physical examination and 51 of 133 had murmurs (about 40 per cent of the whole).
15 who had no murmurs had other abnormalities
67 had apparently normal hearts

It is interesting to note the follow-up of these 133 individuals. Thirty-one left for the following reasons:

4 left to be married.
2 were found to have been married when they entered the hospital
7 because dissatisfied.
7 failure in their studies.
4 found "not suited to nursing."
2 nervous or psychic abnormalities.
2 persistent urological disease.
1 a positive Wassermann.
1 for "cause unstated."
1 heart considered incompetent for the demands of the work.
102 completed their training.

Of the sixty-six "heart cases", forty-six finished, twenty were among the "failures."

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*Read before the Northeast Mississippi Medical Society at the quarterly session, June 11, 1946.

Of the sixty-seven with normal hearts, fifty-six finished, eleven dropped out.

The one heart case sent home does not give a true picture of our total results as nineteen others who went home were among the "heart cure." It is only reasonable to suppose that a student being kept under observation and in the probation group on account of her heart would be more apt to become homesick, dissatisfied or to neglect the full measure of effort in her studies.

Let me say here, that during the more than nineteen years that I was carrying on this work, which included nearly 3000 unit years, there was not a death from any cause in the student group and not one was "sent home to die." The above study however, does show a better than general average for the "normal hearts."

The most important practical lesson to be gained by such a study as this is the relative importance, in a study of the heart, of an isolated detail, and the value of considering the heart as a whole. Let me use a homely illustration: If you were hiring a gardener for your yard, you would not be so much interested as to whether he had flat feet or a finger missing, as to his ability as a whole. Is he able to do the work and is there reasonable assurance that he will be able to continue for a reasonable time? Some of us can remember when a cardiac murmur or an occasional premature contraction would prevent an applicant from securing insurance or at least cause a higher rate to be charged.

Wright tells us that when the individual is at rest, the normal heart is doing only 10 per cent of the work of which it is capable and is carrying 90 per cent of reserve. By and large it is this reserve that is the main consideration. Speaking of the heart in pregnancy, McKenzie contended that when a pregnant woman was able to carry on her usual household activities without maternal embarrassment, he would not consent to a therapeutic abortion no matter what the findings on examination of the heart itself. How many times have you known of young women being advised against marriage and especially against motherhood because of some detail or cardiac abnormality? Our nurses did hard physical work often for twelve hours a day and much of this under physical and psychic pressure yet without untoward results. They were often kept on probation for as much as five to six months, during which time their reaction to their activities were carefully noted. Occasionally one proved incompetent from the standpoint of the circulatory apparatus and was advised to take up a less stressful vocation, but we never had an occasion to regret our final decision as to her cardiac status. Please remember that the grossly abnormal had largely been eliminated by their home examinations before coming to us.

We, of course, had easy access to and used freely the laboratory, the electrocardiograph, and the x-ray. The period of three or more months' probation often amounted to a prolonged cardiac-function test. In the doubtful cases I made the history studies myself as I agree with White and others that this is the most important part of the investigation. In the physical examination of the heart, we considered listening to the heart only as a part of the necessary investigation. The lungs, the liver, the extremities, the skin, the blood vessels, the eyes, and many other possible sources of information received due attention.

My idea is: In evaluating the cardiac status, study the patient as a whole.

Some Blood Pressure Findings

Some years ago, while doing some work for the Standard Oil Company, with the assistance of a collaborator, a study in blood pressure was made and published. In the examination of 1850 persons, the pressure was determined at the beginning and at the end of a thirty-minute examination. The results were not only interesting and informative, but to us very much of a surprise.

The present study was conducted by me to determine the differences, if any, between the pressure gradings made closer together. During the past seven years I have in several thousand instances employed the following routine:

When possible it is arranged for the patient to rest in the waiting room fifteen minutes before coming into the consultation room. The patient is then comfortably seated so that further moving will not be necessary when the blood pressure is taken. If it is a first consultation, the history is recorded; otherwise the interval data are determined and entered on the records. Then the cuff of a mercury manometer is applied and the blood pressure determined and recorded. The cuff is left in place. The pulse rate is then counted and recorded. Then another pressure reading is made and recorded. This gives an interval of about two minutes between the two readings. The difference is often rather startling. For this preliminary report 100 cases were drawn at random from my files. The group included forty-one men and fifty-nine women, ages ranging from seventeen to seventy-six years, the average being about forty. Age and sex seemed to have little influence on the character of the findings.

An analysis of the data shows the following:

The two readings were exactly the same in five.

Both systolic and diastolic were lower on second reading in thirty.

Systolic lower, diastolic same on second reading in fourteen.

Systolic lower, diastolic higher on second reading in twenty-one.

Systolic same, diastolic lower on second reading in five.

Both systolic and diastolic higher on second reading in ten.

Systolic higher and diastolic lower on second reading in eleven.

Systolic same, diastolic higher on second reading in four.

A few of the more striking records are as follows:

		First Reading	Second Reading
Female	22	138/100	124/80
Male	31	144/102	120/84
Male	60	138/110	130/88
Male	50	146/ 90	134/88
Male	17	146/ 70	122/70
Male	70	190/ 92	170/84
Female	35	138/ 86	116/80
Male	70	168/ 86	150/82
Female	17	130/ 98	122/74
Female	13	144/ 80	124/70
Female	50	172/100	150/92

It will be noted that many of these variations are enough to have material significance in diagnosis, prognosis and therapy. It is my impression that most patients begin an examination in a state of nervous tension that has a definite effect on blood pressure. When a reading has been made they consider that the ordeal is over and relax, then a more accurate determination can be made. Repeated pressure readings at short intervals have demonstrated to me that the second reading is more nearly correct, especially if care is exercised in the conduct of the procedure so that abnormal tension is lessened.

Is it not possible that we too often convict a patient of hypertension, put him on the treatment for reduction and, when at a subsequent session we get a lower reading, we credit our therapy for more than it deserves.

My suggestion is that we should give less consideration to an individual pressure reading and rather consider the sum total of repeated blood pressure determinations made under favorable circumstances.

PROPHETIC AS TO GAS-PROPELLED VEHICLES:

The chariots shall rage in the streets, they shall justle one against another in the broad way: they shall seem like torches, they shall run like the lightnings. Nahum—Chapter II—Verse 4—*Holy Bible.*

Varicose Veins – Evaluation and Treatment*

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THIS PAPER presents nothing new in the management of varicose veins. It is rather an attempt to clarify some of the confusion regarding tests used in the examination of patients and the surgical procedure indicated thereby. Thirty years ago Homans stated that "Varicose veins and their attendant ulcers have long offered and may continue to offer a fruitful field for surgical failures, and this is not so much from the lack of effective weapons in the surgeon's armamentarium as from failure to choose his weapons according to the strength of his opponent." These words are as valid today as they were in 1916.

The great or internal saphenous vein begins in the foot, ascends superficially on the medial aspect of the leg, passes posteriorly to the medial tibial condyle and thence up the thigh to empty into the femoral vein at the saphenous opening. Its proximal trunk receives the superficial circumflex ilias, the external pudendal and the superficial epigastric veins. Sapiro has recently described a subfascial stem of the internal saphenous vein which with its communicating veins to the deep system may perpetuate pathology in the superficial system. The small or external saphenous vein begins behind the lateral malleolus at the ankle and ascends along the posterio-lateral aspect of the leg to terminate in the popliteal vein. Atlas has demonstrated the free connections between the internal and external saphenous systems below the knee. By injecting diodrast into the great saphenous vein at the ankle subsequent venograms revealed that the bulk of this fluid passed through connecting veins into the lesser saphenous vein and thence to the popliteal and femoral veins.

The return of venous blood from the lower extremity is retarded by gravity, mechanical obstruction and intraabdominal pressure. The capillary pressure plus support by muscles, fascia and valves plus changes in intrathoracic pressure with diaphragmatic movement must be enough to overcome the retarding forces. The superficial veins with little fascial and no direct muscle support may be distended until the valves become incompetent. Thus venous back pressure increases the capillary blood pressure and impairs the capillary exchange of fluids and metabolites, which in turn increases protein content and fibroplasia in the tissues. The superficial veins become therefore not only a failure in their own function but a definite impediment to venous blood flow. Since the reestablishment of normal function is not feasible the solution is to remove or obliterate that phase of the superficial system which is impairing venous return.

Credit is due the pioneer workers and diagnostic tests that bear the names, but to the practicing physician, a "positive," "double positive", "negative" or "nil" Trendelenburg test is confusing and ambiguous. The Perthes tight bandage test, the comparative tourniquet test, the Swartz percussion test and the Pratt test are all valuable and useful but the practical surgeon desires only to know what is wrong and how to correct it.

When the physician is confronted by a patient with varicosities of the lower extremity he wants to know: first, the system or systems involved, second, the adequacy of the sapheno-femoral valve, third, the competency of the valves in the communicating veins, fourth, the patency of the popliteal and femoral veins and, fifth, the effectiveness of arterial supply to the extremity. With the establishment of these distinguishing features a promising surgical attack is more easily chosen.

With free connections between the internal and external saphenous systems varicosities frequently involve both. Careful inspection will often reveal a dilated and tortuous connecting vein, usually the femoro-popliteal which extends from the distal end of the external to the internal saphenous vein above the knee.

The competency of the sapheno-femoral valve is determined by having the patient stand, placing the fingers of one hand over the dilated vein and percussing with the fingers of the other hand over the fossa ovalis. A transmitted impulse indicates an incompetent valve. This all-important valve is checked again by compressing the proximal end of the internal saphenous vein with a tourniquet around the thigh while the patient is in a prone position. After the patient stands and the tourniquet is suddenly released, if the vein rapidly fills from above down, an incompetent sapheno-femoral valve is implicated. It is felt that incompetency of this valve always indicated the necessity of ligation and resection of the proximal trunk of the internal saphenous vein if the popliteal and femoral channels are open. The ligation is done through a longitudinal incision under local anesthesia. The internal saphenous vein is doubly tied and transfixed flush with the femoral vein in order to avoid a thrombus proximal to the ligature which might lead to pulmonary embolism. The three tributaries in this area previously mentioned are ligated and divided separately. Care is exercised to tie the veins without crushing them. The saphenous trunk containing the mouths of these tributaries is resected and three cc. of sodium morrhuate is injected into the distal end. An elastic bandage is applied from the toes to the upper thigh and the patient walks from the operating room for a short distance every two hours thereafter during the day.

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Stalker and Heyerdale of Mayo's Clinic have reported that "Recurrences are dependent to a great extent on the thoroughness with which this operation is done. The chances of cure are in direct proportion to the completeness and care with which resection of the saphenous vein, together with careful ligation of all communicating branches, is performed." They feel that ligation of the great saphenous vein, with separate division and ligation of its most proximal tributaries, is an essential part of treatment for varicosities in which incompetency of the main saphenous trunk can be demonstrated.

The existence and location of incompetent valves in communicating veins are determined as described by Ochsner and Mahorner. With a rubber tourniquet on the upper thigh the patient walks around the examining room and the varicosities are observed. If they empty completely no incompetent valves are present in the communicating veins. If the varicosities remain filled incompetent communicators are present below the tourniquet. The tourniquet is then reapplied at successive lower levels until the point is located at which compression and walking will cause complete emptying of the varicosities. At this point ligation and segmental resection of the internal saphenous vein is done to obliterate the incompetent communicating channel. The site of lower ligation is most frequently the level of the medial femoral condyle.

Patients who are suspected of having more than one site of incompetent communicators are best tested according to the method of Pratt. An elastic bandage is applied from the toes to the groin and a rubber tourniquet tied around the upper thigh. With the patient standing, the bandage is removed from above down. As this bandage comes off a second one is applied following the first from above down. A sudden protrusion of a collection of veins between the bandages shows the point of incompetent communicating veins. Each "blowout" thus located is marked for ligation and segmental excision.

As previously stated the patency of the deep veins must be established before any surgery is undertaken. A history of thrombophlebitis may indicate impaired deep venous flow but not necessarily since effective recanalization may have occurred. The circumference of the calf is measured and a snug elastic bandage applied from the toes to the knee. The patient is instructed to walk for ten minutes. Severe pain is experienced and increase in circumference of the calf if the popliteal and femoral veins are not patent.

Arterial disease of the extremity is not a contra-indication to varicose vein surgery reduction if venous back pressure improves circulation in the leg. The efficiency of arterial blood supply should be determined, however, by palpating the arteries of the feet; history of intermittent claudication, diabetes or frequent infections of the feet.

Contraindications to surgery are closure of the deep veins of the leg, and the presence of any acute infection in the leg as active phlebitis or cellulitis.

The danger involved is pulmonary embolism. McPheeters described two cases in which the femoral artery and vein were inadvertently ligated. Both patients died of pulmonary embolism. Atlas cites five instances of saphenofemoral ligation with subsequent injections which were followed by thrombosis of the deep veins of the thigh. Two died of pulmonary embolism, one had embolism and recovered, the other two developed "milk leg" with permanent disability. Vaughn and Lees have collected forty-four reported fatal cases of pulmonary embolism following varicose vein injections.

Measures intended to prevent embolism are careful avoidance of a blind saphenous stump in which thrombosis may occur and early ambulation of the patient. The fear of embolism prevents the use of larger volumes of sclerosing fluid at operation and the insertion of ureteral catheters into the veins.

Complete and permanent cure is not promised the patient but definite improvement of varicosities and ulcerations can be assured. A few postoperative injections of sodium morrhuate are anticipated but if more than three are required an incompetent communicating vein has probably been missed.

A method of evaluating the extent of pathology in varicose veins has been presented. It is suggested that careful evaluation and individualizing operative procedures will reduce the rate of recurrence.

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DISCUSSION

Dr. J. C. Green (Tupelo)—I think this is the most practical paper on this subject that I have ever heard. It is obvious that the author has spent considerable thought and study in preparing this excellent paper.

In his introductory paragraph he says that his paper presents nothing new in the management of varicose veins. I disagree with him in that statement. To me his paper brings out the most recent work of Gerald Pratt and David Lyall of Post-Graduate Hospital, New York. I had the fortunate opportunity of working with both of these men at Post-Graduate in 1938 and what they say in regard to diagnosing and treating what they call "blowouts", I feel sure is the answer to many of our previous failures in the operative treatment of varicose veins where the pathology is due to incompetent communicating veins.

Dr. Crawford startled me at first with his statement that numerous methods for testing incompetent valves were valuable and interesting but his next statement was that the practical surgeon desires only to know what is wrong and how to correct it. I am sure that all surgeons doing vascular surgery today feel that the only possible way of knowing what is wrong and how to correct it is by knowing how to apply all of these methods and what they mean and to govern their surgery accordingly. I was happy to see that Dr. Crawford immediately followed this statement by going into detail and describing each method for testing for valvular competency and outlining the treatment as indicated. In regard to surgical treatment of varicose veins in the presence of obliterative vascular diseases, ligation is permissible and profitable but the injection of any sclerosing material is contraindicated.

In regard to the technique of this relatively simple surgical procedure I feel that this operation demands the minuteness of technique of plastic surgery. Here we are dealing with a potentially contaminated field, especially in the obese patient, and one should exert every effort toward asepsis and healing by using only sharp dissection. As soon as the skin and the subcutaneous skin and tissues are incised, take a look, and visualize what is directly underneath, palpate with the index finger and remember the old adage NAV—nerve, artery, vein—and right on top of this vein is what you are looking for, the saphenous vein at its sapheno-femoral junction, or bulb, as Lyall calls it. Please do not do this operation by blunt dissection, by wiping, or by dissecting with the handle of the knife. The people who made the handle intend for it to be used as a handle. Wiping with gauze sponges has no place in this operation just as it has no place in other surgery. Scissors are made to cut with and not to spread and tear and traumatize the tissues. Stay away from the lymph nodes and do not disseminate the lymphatic fluids in the wound because it does not stimulate healing. Get a good pair of rake retractors or a spring retractor, either of which would improve your technique more than any other single instrument for this operation except a sharp knife. I use transfixing sutures or black silk. Cotton is fine provided your hospital does not re-boil it. I would not think of using re-boiled cotton suture material in any operation. The vascular tributaries are tied with plain catgut. Chromic does not seem to react so well in this field. Any non-absorbable suture material on the skin is satisfactory provided it is used as an interrupted suture, for a continuous interlocking one always strangulates a certain amount of tissue and enhances healing. We favor vitamin C postoperatively. I hope that the older surgeons here, several of whom have been my former chiefs, will forgive me for mentioning these rather elementary basic principles of surgical technique but I feel that the final results of this procedure are definitely weighed by the delicateness by which this operation is done. Local anesthesia with high ligation which makes the patient immediately ambulatory postoperatively is the answer to the prevention of postoperative thrombosis and emboli.

My surgical colleague is using some of the new solution today for me in Tupelo on a bilateral ligation and injection during my absence. Of course, I am anxious to see the results of this new solution that Dr. Alton Ochsner recommends so highly.

In closing I would like to give you a synopsis of a rather interesting case that I had recently. This lady had previously had a ligation and injection with morrhuate of the left saphenous vein one year in a nearby city. She came to me for a ligation and injection of her right saphenous vein which revealed an incompetence at the right sapheno-femoral junction. I ligated and injected her right saphenous vein with sodium morrhuate. She received a very satisfactory sclerosis with a minimum reaction in the right saphenous vein but a rather severe reaction of the left saphenous vein which had been previously ligated and injected. The reaction in the left saphenous vein was manifested by redness, fever, and tenderness along the course of the left saphenous vein as well as slight swelling of the leg. This whole reaction was only temporary and soon subsided within a week's time. No other veins of her body exhibited a similar reaction. To me this was an allergic reaction to morrhuate. She had had no similar reaction at the time of her initial operation one year ago. We feel that for those patients who exhibit a sensitivity to sodium morrhuate one should use sodium ricinoleate in a 3½ per cent solution.

I would like to thank Dr. Crawford again for his excellent paper and I feel that he has made a contribution to the treatment of varicose veins.

Dr. L. W. Long (Jackson)—It is a privilege to compliment the doctor on his timely, concise, and well-presented paper. This subject is one that needs more dissemination than we have had in the past. He has given an excellent review of the current situation, and I should like to emphasize some cardinal principles which he has brought up, which I have found necessary in carrying out the correct treatment.

First, make a careful individual analysis of the case in question, exhausting all methods required to determine just what is the anatomical situation and just how patent the deep veins are. This has been well stated by the author. Of course, all acute infections or phlebitis must be cleared up prior to the treatment.

Next, carefully ligate the internal saphenous vein at its junction with the femoral, including its tributaries, usually three in number but often anomalous and varying to five branches or more.

Next, in our practice we have routinely ligated the saphenous vein at the level of the medial femoral condyle, also. We have done this in order to take care of any future troubles arising from the tributary of the deep vein, which I believe causes trouble at a later date. I feel that this is one procedure that should be done, provided there are no contraindications at the time.

It is most important that a well-placed elastic bandage to the groin be applied to the affected leg after ligation, followed by immediate exercise; however, we have had a number of cases in which for other reasons they have been bedridden, and then we have used the bicycle in bed, with the elastic bandage applied, obtaining equally as good results.

I should like to caution all that no one plan is perfect but individualization to each situation is necessary.

I again pay tribute to the author for a well presented subject, which requires the attention of every physician in Mississippi.

Diarrhea*

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Diarrhea in reality is a symptom rather than a disease. However, it generally implies an acute catarrhal enteritis or gastro-enteritis which is produced by no known organism. This paper will be primarily concerning this type of diarrhea mentioning the other types for differential diagnosis.

Diarrhea is defined as a frequent loose evacuation associated with increased peristalsis. There is not only a change in the number of stools but also a change in the consistency of the stool. Some normal people have only three or four bowel movements per week while others have that many in a day.

INCIDENCE

This disease is less common now but it is still near the top of the list as the cause of death in infancy. Morbidity and mortality is greatest among the very young and old but is also very common among troops. It is much more common in warm weather than cold weather. It is also much more common in the southern United States and tropical countries than in northern climes. The incidence is also greatest among the poor and ignorant and those living in poor hygienic surroundings as troops in the field.

ETIOLOGY

Abnormal temperatures, humidity, and ventilation predispose to diarrhea especially in the young and old as they are unable to maintain a normal metabolism and the physiological processes of digestion become abnormal.

Parenteral infections, as the common cold, tonsillitis, otitis media, mastoiditis, pneumonia and occasionally chronic pyelitis, tuberculosis or syphilis may cause diarrhea.

Malnutrition is often accompanied by diarrhea.

Food, both quantitatively and qualitatively, is a frequently exciting factor. Some mothers are overzealous and give their babies much more than necessary for a proper gain. Some are given too much carbohydrate or fats.

The lack of refrigeration and cleanliness in handling milk and food is an important cause. Diarrhea is less common in breast-fed infants than bottle-fed infants.

In my experience diarrhea is less common when pasteurized milk is used instead of raw milk and still less with evaporated milk.

Of the enteral infections causing diarrhea bacillary dysentery is the most frequent.

Typhoid and paratyphoid is still seen occasionally.

A few cases of amoebic dysentery are seen, many of whom have never been out of this state. As the members of the armed forces return there will very likely be an increase.

Asiatic cholera is seen occasionally along the seaboard.

Not to be ignored are psychic states, as anger, fear, joy and fatigue which cause an increased peristalsis. It is not uncommon for a child to get diarrhea from difficulties in school or men from a difficulty or upset in the business or home life.

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Allergy, drugs or overdoses of drugs may also be considered.

Intestinal parasites at times cause intermittent diarrhea.

A virus has been isolated by Dodd and others who feel that it is the cause of the diarrhea in which we have heretofore found no organisms.

PATHOLOGY

In contrast to the dysentery group where there is necrosis, ulceration and hemorrhage into the bowel, autopsies on cases of so-called simple diarrhea or enteritis often show nothing. Some show conjestion and enlargement of lymph follicles and a few small hemorrhages in the intestinal wall.

Other changes occasionally found outside the intestinal tract are fatty degeneration of the kidneys, liver, heart and spleen.

PHYSIOLOGICAL CHANGES

These changes are usually consistent and more frequent than any pathological changes.

In severe cases there is dehydration, the carbon dioxide combining power and hydrogen ion concentration being lowered.

The normal carbon dioxide is 50 to 70 volumes per cent for adults. Infants normally run about 10 per cent less. Volumes as low ion concentration (PH) is 7.4 and when as as 20 to 30 are severe. The average hydrogen low as 7.3 to 7.0 acidosis is severe.

In many cases of diarrhea there is much vomiting at the onset with a loss of chlorides which alone would cause an alkalosis, but the loss of the base-forming minerals Na, K, Ca and Mg through the stools is in such an excess of the chloride loss that there is usually an acidosis. Actually Na and K salts when injected into the body are transformed to bicarbonates and hence alkalinizing while Mg and Ca produce a weak acid ion.

There is an increase in the guanidine in severe diarrhea as in severe burns or epilepsy. The average blood guanidine (methyl guanidine) is .2 mg. per 100 cc. Values of .5 to 2 mg. are considered high.

In chronic diarrhea the blood calcium is often so low that tetany develops. (Normal blood calcium 9 to 11 mg). Due to the concentration of blood and the fact that all the calcium is not utilized, tetany may develop with a normal blood calcium.

The blood proteins are lowered and the nonprotein nitrogen is often elevated in severe or prolonged cases.

SYMPTOMS AND SIGNS

The onset is usually sudden with vomiting as well as diarrhea. The stools become frequent, loose and watery, usually numbering eight to ten daily but may increase to twenty or thirty. The temperature usually goes to 101° or 102° but may go to 105° in a few hours. Older children and adults complain of abdominal cramps, pain and griping on defecation. Where undernutrition is present the temperature may be subnormal. In young children and babies there is restlessness and irritability. Some develop a twitching of the head and extremities as if a toxic encephalitis were associated.

As the disease progresses the skin becomes dry and inelastic with an ashen tint.

When acidosis develops the lips have a peculiar pink tint and the respiration becomes slow and deep. If the disease has existed for sometime without treatment the patient may be comatose.

Physical examination often reveals nothing beyond the above picture, but a thorough search should be made for infections and abnormalities. Very frequently there is a red bulging ear drum or an acutely inflamed throat which has been overlooked. Diarrhea is a symptom of many diseases and should be considered so until other diseases are ruled out.

DIFFERENTIAL DIAGNOSIS

1. The onset of contagious diseases or respiratory infection is probably the most common cause to be ruled out.
2. Bacillary dysentery also has a sudden onset usually with a high fever and the stool is mixed with blood, mucus, and pus, giving it a pink to red color.
3. Amoebic dysentery is usually more insidious at the onset and intermittent in character with mucus in the stools. Blood is seen but not as common.
4. Asiatic cholera is ushered in with a sudden onset with collapse and cyanosis and stools are predominately water and mucus, giving the name "rice water" stools.
5. Typhoid fever may have an onset with diarrhea but the stools may be normal or constipated. The doughy feel of the

abdomen and rose spots over the body may be of some value.

6. In intussusception the blood is not usually mixed with the stool and the abdominal pain is usually more severe.
7. In malignancy of the bowel the age of the patient, the onset of the disease, loss of weight over a long period are often helpful. Blood when present is not usually mixed well with the stool as in dysentery.
8. In psychic states the mental and emotional state of the patient as well as a good history is helpful.
9. Diarrhea from intestinal parasites is usually intermittent and often associated with weight loss and nervous symptoms.

PREVENTION

The continued improvement in the milk supplies, a more abundant and higher standard of living with proper diets as well as public education in cleanliness and sanitation will reduce diarrhea a great deal.

TREATMENT

Fluids. The treatment of course would depend upon the cause and severity of the diarrhea.

In mild cases often the withdrawal of solid food is sufficient.

In the more serious cases the first consideration should be the fluid loss. The fluid should be 2 oz. (60 cc.) per lb. of body weight intake of a child for the twenty-four hours and for older children and adults 2,000 to 4,000 cc.

In view of the loss of chlorides Na, K, Ca and Mg, Hartmann's hypotonic Ringer's solution is ideal (10-15 cc. per lb. of body weight) as it contains all of the above. Saline alone is not sufficient in severe cases.

The kidney function is improved by the administration of 10 per cent glucose.

The administration of calcium gluconate will often prevent the extreme intoxication from hyperguanidinemia and may prevent tetany although the blood calcium is normal.

In severe cases of acidoses 4 per cent sodium bicarbonate may be given intravenously but should not be given except when the carbon dioxide combining power can be obtained. The amount of the 4 per cent solution needed may be calculated by multiplying the difference between the patient's carbon dioxide combining power and the normal (as 55 minus 30 equal 25) times the body weight in kilos times 0.7. Example: 10 kilos x 25 volumes per cent x 0.7 equal 175. cc or about 8 cc. per lb.

Too much fluid will waterlog the tissues and cause toxic symptoms, convulsions and sometimes death. A safe guide for injection is 2.8 oz. of fluid per lb. of body weight per day.

In servere cases, especially with low plasma protein or when anemia is present, small transfusions (10 cc. per lb. of body weight) every second or third day is often a life-saving measure.

In severe cases 5 cc. amino acids and blood plasma has been used with advantage.

Food. When vomiting is present it is often well to withhold everything by mouth for at least eight to twelve hours and occasionally for forty-eight hours.

In babies boiled water, ½ normal saline (1 teaspoon of salt to a pint of sterile water) or weak tea should be given every one to two hours when awake. As soon as tolerated boiled skim milk (my preference), buttermilk, protein milk or lactic acid milk may be given every three to four hours. Casec (calcium caseinate) added to the above mixtures in 5 per cent strength gives an added amount of nourishment and is usually well tolerated. Albumin and cabbage water has been tolerated well by many. The strength of the patient is greatly improved if soft food can be tolerated early. In young babies (over three months) strained applesauce or fully ripe bananas (with dark spots) can be given every three to four hours.

As improvement continues, cereals, strained vegetables, jello, egg, mashed potatoes, etc., may be added cautiously. In chronic cases when vomiting has been controlled, feeding of the above foods is very necessary to maintain weight and strength.

Vitamins. In diarrhea of short duration added vitamins are probably unnecessary but if it is prolonged due to deficient diet they should be added.

Drugs. Purgatives are usually of no value as you already have an increased peristalsis and they probably aggravate many cases.

In the ordinary enteritis, sedatives probably are the most useful. Phenobarbital is good for restlessness, tincture of opium or morphia relieves tenesmus and cramps as well as the restlessness. Bismuth preparations probably get their reputation from the opiates which are added.

Kaopectate has been used for its mechanical and absorptive powers. It is safe from birth to old age. Tincture of opium mixes well with this preparation. (One to four minims to the ounce will relieve restlessness and tenesmus).

The treatment of respiratory or genitourinary infections with the sulfa drugs or penicillin generally improves the diarrhea.

Time does not permit the discussion of treatment for specific enteral infections with sulfa drugs, carbarsone, etc.

Folic acid would, no doubt, add a great deal to the treatment of many cases of diarrhea.

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DISCUSSION

Dr. H. F. Garrison (Jackson)—Dr. McDougal is to be congratulated upon his splendid presentation and differential diagnosis of the diarrhea. He has asked me to add a few comments on the bacillary dysenteries.

INCIDENCE (Slides 1-5)

Our state has consistently shown a rather high rate of bacillary dysentery. Bacillary dysentery, or Shigellosis as it is now frequently called, shows a marked increase during the summer months.

PATHOLOGY

(Slides showing pathologic specimens in various stages of inflammation in the small gut).

DIAGNOSIS

Prophylaxis by good hygiene is most important. These diseases are acquired by eating the bacteria. The diagnosis of bacillary dysentery is based upon the clinical appearance of the patient and the bacteriological findings in stool cultures.

The clinical course of this disease varies from that of a few loose stools in the mildest case to that of the fulminating type with high fever, coma, and death within a few hours. This severe fulminating type may never have a loose stool. In the milder forms, there is usually loss of appetite, nausea and vomiting, severe abdominal pain of a cramping nature, and diarrhea. The stool is usually watery, with some mucus and a rather characteristic mousey, wet hay odor. In the severe type of the disease, the above symptoms are more pronounced and the stools contain bloody mucus. If the patient is toxic, the fever is usually very high and there may be convulsions and even coma. Due to the decreased fluid intake, (vomiting and anorexia) and fluid loss (from excessive perspiration, vomiting and diarrhea), severe states of dehydration and acidosis frequently result.

What is known clinically as bacillary dysentery may be caused by any of the typhoid dysentery group. The Shiga and Flexner types are regarded as causing the most severe clinical symptoms. The Shiga bacillus produces an endotoxin and an exotoxin which is neurotrophic. This probably accounts for the great toxemia and severity of these cases.

According to various authors, a bacteriological demonstration is probably in from 50 to 95 per cent of the cases. During the summer of 1937, we made an extensive bacteriological study on a number of diarrhea cases, the results of which were reported before this medical association by myself and Catherine Mayfield in 1938. Our preliminary survey showed 33 per cent of the clinical cases of bacillary dysentery to be proved by bacteriological study. Improvement in technique in collecting the stools and in cultural methods have more than doubled this percentage. We feel that every case of suspected bacillary dysentery should have the benefit of a properly done stool culture. A swab is inserted about two inches in the rectum and immediately placed in the liquid preservative. This is sent to the laboratory as quickly as possible. The longer the delay in getting the specimen to the laboratory, the less likelihood of a positive culture.

TREATMENT

The treatment of these cases can be outlined as follows:

1. No food for twenty-four hours.
2. Water and carbonated drinks freely.
3. After the rest period, boiled skimmed milk, lactic acid milk or powdered protein milk formula. As the patient improves, a low residue, low fat, high carbohydrate and high protein diet is begun.
4. Chemotherapy. There seems to be a wide variance of opinion among the pediatricians throughout this country as to which type of the sulfonamide drugs are the best. In 1937 and 1938, we coöperated in some preliminary studies that were made upon sulfaguanidine. We feel that this is a good drug when given early, but we do not think it is very efficacious in a case that has had symptoms for five to seven days. Sulfasuxidine is another one of the poorly absorbed sulfonamides which has come into widespread use. The one sulfonamide which seems to give the poorest results is sulfathiazole. The general concensus of opinion seems to be that sulfadiazine is probably one of the best drugs to use, especially if treatment is delayed forty-eight hours. However, in the use of any sulfonamide, which is absorbed into the system, it is imperative that the patient be given large amounts of fluids to prevent the danger of kidney block. If the patient is severely sick, it is certainly best to hospitalize him, give intravenous fluids followed by 5 per cent sodium sulfadiazine intravenously or subcutaneously, and to maintain the fluid intake high.

5. To replace fluid loss, the intravenous or subcutaneous drip of 5 per cent glucose and Hartmann's solution is excellent. If the acidosis is marked, a 1/6 Malor sodium lactate solution can also be given. In the severe dysentery with a long course and poor tolerance to food taken by mouth, the feeding by amino acids given parenterally is indicated. The mixture of 10 per cent glucose, 10 per cent amigen and lactated Ringer's solution as recommended by Hartmann is an excellent medium to supply the required amount of protein, carbohydrate, and fluid that the body needs.

6. After the patient is well hydrated, a blood transfusion or plasma may be given.

7. The use of bismuth and the various paolin preparations in conjunction with paregoric may be used in those patients who are losing excessive fluid by bowel. However, the paregoric should be used in minimum doses.

Dr. O. N. Arrington (Brookhaven)—Not having had an opportunity to study the paper submitted, I shall present a few facts and thoughts in a general way: Diarrhea is an abnormal frequency and liquidity of fecal discharges as described by the father of medicine, Hippocrates. The word is derived from the Greek dia through plus rhein, to flow equal to, to flow through; therefore, strictly speaking, diarrhea, without modification, as diarrheas of infancy, or typhoid fever, of toxemias, etc., the condition is not a separate pathological entity, and often an acute diarrhea is of minor significance, but always is a sign of aberrant function; but when we modify the condition, viz., diarrhea of infancy, chronic diarrhea, mucous diarrhea, we come into a more understandable meaning.

Likewise, we are often more or less confused in the meaning of diarrhea and dysentery. The latter is more understood to mean bacillary and amoebic dysentery—each quite a significant disease. So again, we think of the diarrheas as less significant and dysentery a more grave condition. Frequent, acute watery stools following some indiscretion in diet, often terminating with simple treatment before a thorough technical study can be made, would give conclusive diagnosis of diarrhea.

The association with severe nausea and vomiting would indicate a probability of food poisoning, or one of the graver dysenteries and the need for higher technical and more thorough investigation. Treatment of the milder type of diarrhea is very simple, often the withdrawal of food and drink temporarily will suffice, followed by a gradual increase of broths and starchy gruels. Blackberry juice off old canned blackberries is a conventional remedy and effective diet and nourishment, and will bring the patient back to a normal digestion and cure. The severer types need much more study and care. Originally I was taught to give hydragogue cathartics like salines to cleanse out the offending matter and food, but when a patient is already purged with frequent and free stools from the diarrhea, he wants, and needs, something to check the diarrhea. For this, opium, morphine or laudanum in various combinations, has not been replaced by a better drug.

In the diarrheas of children, with acute GI upsets, twenty-four-hour fasting, with hunger nervousness quieted by opium, with gastro-intestinal astringents and sedatives, like bismuth, kaopectate, and blackberry cordial, have given best results, in my experience, with a complete overlooking of the feeding.

The Ophthalmoscope, an Aid in Diagnosis*

DR. STIRLING S. McNAIR

Jackson, Mississippi

THE OPHTHALMOSCOPE has been a most intriguing and interesting instrument since its invention. It not only opened up a new field in the diagnosis of ophthalmological conditions but it aided physicians in the diagnosis of diseases which had no connection with the eyes. It was not long before ophthalmologists were noting the fundus picture in cases of high blood pressure, diabetes, nephritis, brain tumor and other diseases. These observations have continued until today the fundus picture in certain diseases is characteristic, and is a most definite aid in diagnosis. I shall now describe briefly the ophthalmoscopic picture in a few of the more common diseases which have a characteristic fundus picture.

Blood Vascular Disease. The media is usually clear although often vitreous opacities are present as a result of a previous hemorrhage in the vitreous or retina. At times one sees a subhyaloid hemorrhage large enough to obstruct our view of most of the fundus. The disc may vary from normal color to marked hyperemia. The margins may be clearly defined or they may be blurred due to edema of surrounding retina. The disc may even show a measurable amount of elevation due to hypertensive disease alone. Most ophthalmologists divide retinal arteriolosclerosis into four groups depending on the severity of the fundus picture. The arterioles of the retina even in mild cases of arteriolosclerosis of long standing often show some increase in brightness of the light reflex, increased tortuosity, slight indentation of the veins where the arterioles cross them, and a slight narrowing and irregularity of their lumen so that their normal proportion between the veins and arterioles of the retina of four to three is disturbed and the vein may be twice as large as the arteriole. A finding first mentioned by de Schweinitz is that of increased tortuosity of arterioles in area of macula as a definite sign of arteriolosclerosis. Often in more severe cases of arteriosclerosis one finds small retinal hemorrhages, some of which are round and located in deeper retinal layers and others which are flame-shaped and are located in the nerve fibre layer. These are more numerous near the blood vessels themselves. Often exudates of hard cotton-wool type accompany the hemorrhages and in severe cases they form a stellate figure around the macular area. In hypertension cases it is most important that the internist know these findings as the degree of severity of the retinal arteriosclerosis is as a rule important from a prognosis standpoint.

Diabetes. Findings in cases of diabetes of long standing are often characteristic of the disease and I am sure that most of you upon examining the fundus of a diabetic have asked the patient "How long have you had diabetes?" or some similar question without your knowing before the examination that the patient had diabetes. Recently I examined a woman forty-two years of age whom I had examined prior to my entry in the Navy. The fundus revealed many small cotton-wool exudates with an occasional small round hemorrhage. I was convinced that she had diabetes. The record of a previous eye examination showed she had the retinosis then and she was advised to have blood studies done at that time.

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*Read before the Section on Eye, Ear, Nose and Throat at the seventy-eighth annual session of the Mississippi State Medical Association May 14, 1946.

These studies were not done at the time but were done after the recent examination and they showed her to have diabetes. The usual fundus picture in diabetes is many small round hemorrhages, although there may be some large ones, small cotton-wool exudates with sharp cut edges in irregular manner and from slight to severe retinal arteriolosclerosis. It should not be forgotten that all cases of diabetes do not show the above signs, in fact unless arteriosclerosis is present many ophthalmologists doubt that hemorrhages and exudates occur in diabetes. It is rare to find hemorrhages and exudates in a young child diabetic and in these cases diabetes is often a most malignant type.

Nephritis. Usually the presence of retinosis in cases of nephritis, excluding cases of pregnancy, signifies that the disease is of long standing although it is occasionally found in cases of acute nephritis. Retinosis is found most commonly in chronic interstitial nephritis. In this type of nephritis Foster Moore found retinosis present in 50 per cent of the cases while Nettleship reported retinosis present in 40 per cent of his cases. The prognosis in nephritis with retinosis is very grave and few patients live longer than three years if arteriosclerosis, pregnancy, and acute cases of nephritis are excluded.

The ophthalmoscopic charges are divided into three kinds: hemorrhages, exudates and edema. There is no constancy in which these changes appear. Some degree of edema is present in nearly all cases but unless it is well marked it is difficult to diagnose. Retinal hemorrhages are always present and are most frequent and largest in the central regions. They absorb as new ones occur. Cotton-wool exudates of considerable size occur in central regions and often obscure the blood vessels. Edema is most marked in the presence of these exudates and thus in these cases retinal detachment is most apt to occur. As a rule the cotton-wool exudates fade away without leaving a trace of their presence. Often an exudate in the form of a star-shaped figure with lines radiating out from the macular is present. This formation is more often seen in renal retinosis than in any other condition, although it may be seen in papilledema, embolism of retinal artery, syphilitic retinosis and thrombosis of the retinal veins. When the star-shaped figure is found in papilledema it is usually not complete but is more fan-shaped and placed between the disc and macula with its apex toward the macula. The formation of a star-shaped figure is explained on an anatomical basis due to formation in Henle's fibres or is due to tension lines in an edematous retina. Many ophthalmologists believe that the vascular changes are secondary and that retinal disease is due to toxins in the blood acting on the retinal tissues, before it affects the blood vessels. Papilledema may occur in nephritis but as a rule is accompanied with exudates which aid in the diagnosis although often the diagnosis between brain tumor and renal disease is difficult. Retinal detachment occurs especially in pregnancy. It is usually bilateral, globular, and involves the lower part of the retina and is not part of a general edema, and it practically never occurs unless retinosis is present. As the retinosis subsides the arteries and veins become smaller with white streaks along their edges near the disc and often atrophy occurs. Nearly always after subsidence there are some pigmentary changes seen.

Pernicious Anemias. Nearly all cases show retinal hemorrhages. Many of these hemorrhages are flame-shaped and often contain a cotton-wool exudate in their center. The retinal blood vessels are usually engorged and the whole fundus may show considerable pallor. The optic disc is often pale and at times the retina and disc have an opalescent haze over them as if they had been smeared over with milk and water. The fundus picture in lymphatic and myelogenous leukemias are the same as in pernicious anemia except that the veins are more engorged and paler. Retinal hemorrhages are more frequently seen and most often contain a white exudate in their center. The whitish center seen in retinal hemorrhage is due to aggregations of leucocytes.

Tuberculous Meningitis. Tubercles are seen in the choroid in cases of miliary tuberculosis involving the meninges in about one-third of the cases. Often tubercles of the choroid are not seen in the choroid ophthalmoscopically but are found postmortem, and this is accounted for by the fact that they only appear a few days before death and it is often difficult to examine the patient properly at this time due to the extreme illness.

Brain Tumor. Ophthalmoscopically we see papilledema in 80 per cent of cases of brain tumors. Papilledema is caused by brain tumor in 71 per cent of these cases. Papilledema is seen in nearly all cases of tumor located in the cerebellum, fourth ventricle and tempero-sphenoidal regions. In tumors of the subcortical area or in the pons, papilledema is seen in only about 50 per cent of the cases. The ophthalmoscopic picture in papilledema reveals the optic disc to be swollen and its margins blurred; often there are hemorrhages on the disc or throughout the retina. There are often exudates throughout the retina and especially between the optic disc and macula. The veins are usually dark and overfull. It should not be forgotten that papilledema may exist for a long time before visual acuity is affected. Most authorities do not believe that the location of brain tumors always coincides with the side which shows the greatest amount of papilledema. In cases of papilledema it is advisable to examine frequently to determine whether the edema is increasing or decreasing. Other causes of papilledema are intracranial abscess, meningitis, renal disease, and occasionally hypersensitive heart disease.

I have only briefly described a few diseases in which the ophthalmoscope is of great aid in diagnosis. More frequent ophthalmoscopic examinations will not only aid in diagnosis of many diseases but will also serve as an accurate check on their progress and prognosis.

DISCUSSION

Dr. A. G. Wilde (Jackson)—As a diagnostic instrument of general value, the ophthalmoscope is exceeded by none and equalled by few. When von Helmholtz developed a practical instrument in 1851, he opened a new world of investigation and clinical knowledge. Its value to the internist is almost as great as to the ophthalmologist. When we recall that in the eye we are permitted to see both the blood vascular and central nervous systems functioning in their normal states, the occupation is little short of startling.

To yield its complete results, the ophthalmoscope must have its technique mastered by practice and comparisons. The mere possession of a formidable looking instrument, or the casual squinting into an eye at intervals, can be but little more than a useless gesture.

As the chief study of man is the normal man, so the chief study of the fundus is the normal fundus. This is not simple. There are so many variations in fundi that one must concentrate on them for some time before being able to say that the doubtful condition at hand is definitely an abnormality. It has been my observation that there are but three classes of individuals that can instantly and unfailingly supply all answers—fools, humbugs, and dangerous amateurs.

In so many instances, training with the ophthalmoscope is conducted backwards. As diseased conditions are usually regarded more interesting, one tends to concentrate on them, and only by parenthesis and somewhat as an afterthought, are the varying types of normal fundi considered.

If one must choose, or be restricted to one type of ophthalmoscope, the non-luminous that can be used both directly for near, and indirectly for distance is the one that has a greater range of utility than any electric instrument thus far devised. This is especially true when one is called upon to make an examination through small pupils, clouded media, past obstructions, or when studying the peripheral portions of the retina. While the non-luminous instrument is harder to master, the increased range of its results justifies its added study.

As Dr. McNair has indicated, much can be told and foretold regarding the cardio-nephritic blood vascular system by the ophthalmoscope. Especially is this true concerning future developments, or the liable outcome regarding life itself. Thus it becomes a prognostic instrument par excellence.

In the diagnosis of diabetes, I have never been able to demonstrate to myself that its fundus picture is either constant or characteristic. Fortunately we have more definite means of recognition of the disease. In an endeavor to see changes that so many observers have described, I examined all cases of diabetes in the Walter Reed General Hospital for two years, and found little in the fundi that I could clearly state arose from diabetes alone. The changes seemed rather the result of diabetes, nephritis and arteriosclerosis. The older the patient, the more fundus changes were noted. Many severe and long lasting cases had no demonstrable changes whatever, especially in the younger age groups. Others showed diffusely scattered or perivascular infiltrations or hemorrhagic exudates both recent and old. As all these are also seen in nephritic and arteriosclerotic fundi, I was never able to draw a line and state, here one condition ends and diabetes begins. Fortunately, we are not dependent on this for the final decision.

We know the three conditions so frequently coexist, it is natural their changes may overlap or fuse, and thus leave the observer perplexed as to which was first, or which is dominant.

If the abnormal process discovered in the fundus examination is amenable to treatment, early recognition is usually essential. I believe the most useful finding of early fundus involvement is a slight edema of the macular region. Normally this area is a shallow depression. When it is examined with even the partially red-free illumination of the electric ophthalmoscope, there is seen a bright spot at the center which behaves in the manner characteristic of the katoptric reflections of a concave mirror.

Whenever there is the slightest change or uneven surface of the macular cup, this reflection is changed from a bright spot, and becomes elongated, converted into concentric circles, irregular, or is altogether obliterated. With this I have frequently been able to pick up beginning retinal involvements before the usual lights or methods of examination could detect any change.

When called upon to decide whether or not a disc is edematous to the stage of choking, the wide variations of the normal disc must be kept in mind. In the higher hyperopic eyes, the disc is always prominent, especially on the nasal side. This can be very similar to an incipient papilledema, and will at times perplex the most competent. Here also the katoptric foveal reflex is of great service. In all cases of doubtful pathology, compare the disc with its opposite, as the disease in the early stage can seldom find them identical. It may also be of value to inspect glasses that had been previously worn, and see if there has been an abrupt development of hyperopia, which would show a pushing forward of the retina due to edema. Even then the examination may have to be repeated several times to decide whether the seeming abnormalities are constant or progressive.

DR. W. L. HUGHES (Jackson)—Invention of the ophthalmoscope in 1851 by Helmholtz did more for the advancement of ophthalmology than all other instruments or agencies before or since that time. It has been a boon to modern medicine outside the field of ophthalmology and, as Dr. McNair has stated, has made it possible for us to aid in the diagnosis, and to help determine the progress and prognosis of general diseases and conditions of the body. There is probably no instrument in any field of medicine that so ideally serves that purpose. It enables the ophthalmologist to watch from day to day the progress of an eye disease, or the manifestations of a general disease, and helps to determine the course of treatment. It makes it possible for us to say that the eye is the only organ of the body where we can see its detailed structure, including blood vessels, nerves, etc., and be sure that a given condition is clearing up by direct observation alone. It is difficult for us to imagine what the practice of ophthalmology would be without this instrument. In addition to the disease mentioned by Dr. McNair, it is of great value in toxemia of pregnancy, it being considered necessary to terminate pregnancy, if exudates appear in the retina before the end of the third month. It is also of value in doing industrial ophthalmology to determine internal injuries of the eye, and to detect malingerers in alleged injuries of the eye.

I believe that ophthalmoscopy is not stressed enough in medical school. I believe it would be of inestimable value to internists, and and others, if they were able to do at least a superficial examination with an ophthalmoscope. I think that one of the reasons that the ophthalmoscope is used so little by the general man is that he has no dark room facilities, it being extremely difficult for even a man experienced in its use to do an examination other than in a darkened room. If we could encourage this general use, many more diseases could be detected much earlier.

To thine own self be true;
And it must follow as the night the day.
Thou canst not then be false to any man.

—SHAKESPEARE

Surgery and Allied Methods in the Treatment of Cancer*

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TREATMENT OF cancer involves diagnosis and treatment. Selection of method is determined by the best interest of the patient. If one or more methods supplement others, all are used. Facing a battle, the able general uses not one branch of the service, but all: air force, ground force, infantry, artillery, intelligence, sea force, propaganda and replacement troops along with any other force at his command. The better the team work, the better are his chances of winning the battle. The same is true of the battle against cancer.

Cancer has been with us as far back as the beginning of recorded history. Accepted treatment has always been and still is to try to destroy it by all and any available means compatible with the survival of the patient.

Hippocrates about 460 B.C. knew and applied methods for the destruction of cancer. He used wide excision with the scalpel and also destruction with the hot iron. Chemical methods of destruction, using caustic pastes, have long been used both by quacks and some legitimate practitioners and often with good results. The hot iron or cautery has some logical advantages over the scalpel. In the first place, cautery excision involves less bleeding, so that only large size blood vessels require ligation. Second, cancerous tissue may be more susceptible to the action of heat than most normal tissue, and it is thought that cancer cells along the line of a cautery incision may be killed by heat while permitting the survival of most of the normal tissue cells. Third, in many cancerous lesions the cancerous tissue has been invaded by pathogenic organisms and the area is infected. Also, many cancers are located in naturally contaminated areas, for instance the mouth, or the rectum. Here the cautery may offer some advantage by virtue of the bactericidal action of heat. From a practical aspect it would seem, however, that wide excision through the surrounding normal tissue entirely wide of all caner tissue is essential when attempting to remove a cancerous lesion, regardless of whether the incision is made with the scalpel, the cautery, or the high frequency cutting current.

The discovery of the x-ray by Roentgen and radium by Curie and of the cancerocidal property of the x-ray and radium ray gave rise to an extravagant wave of optimism regarding cancer control. It was too often believed that irradiation had some sort of more or less magic effect on the cancer cell, destroying it selectively, and sparing the normal tissue cells. Unfortunately, the x-ray and radium ray has not proved to possess such qualities, because a dose of irradiation sufficient to destroy cancer is also very destructive to normal tissue. However, irradiation has proved to be a valuable agent for cancer destruction, and for cancer in certain areas is by all means the treatment of choice. Inadequate or incomplete irradiation is just as disastrous as incomplete removal of the cancer by surgery or any other method. Regardless of method, cancer patients who are not made cancer free by the first attempt have very little chance of being relieved by later attempts at treating recurrences. This is especially true of deep seated lesions.

Small skin lesions are often removed by the coagulating high frequency current without biopsy. This practice may be justifiable when dealing with obviously simple warts, but can be very dangerous if done promiscuously. The coagulation current produces considerable gas in the tissue resulting from heat and also gas produced by electrolysis, and it is thought that the explosive action of these gases may at times result in the spread of malignant tumor cells. It seems safer to remove all but the simplest skin lesions and subject the tissue to microscopic examination. Removal should be adequately wide and deep.

So far we have considered efforts to destroy cancer by eradication with the scalpel, the hot iron, irradiation, and high frequency currents. These methods have proved highly effective for destruction of early localized lesions. When regional spread has occurred and regional lymphatic dissection is added, results are too often disappointing, and cure is never expected when remote metastasis or generalization has occurred. At present the best thing we can do to meet this situation is to try in every way to get the patients early while the lesion is still local. The public education program of the American Cancer Society plus careful checking of patients at every opportunity by physicians will undoubtedly accomplish much along this line. The problem is beset with many difficulties. We have all seen patients with cancer of the tongue who first noticed a lump in the neck and were totally unaware of any trouble with the tongue until examination brought it out, and patients with cancer of the breast who had never noticed anything wrong with the breast but came to the doctor because of a fracture of the hip which turned out to be a pathological fracture due to bone metastasis from an unnoticed lump in the breast. We too often make the diagnosis of an obscure lesion of the chest or abdomen by removal of an enlarged supraclavicular node showing cancer on microscopic examination. Such cases are not curable by surgery or irradiation; not by any surgical procedure however radical nor by any radium bomb regardless of how many grams of radium it may contain nor by any deep therapy machine regardless of whether the voltage capacity is 200,000 or 1,000,000 volts. The virtual outcome can always be expected to be the same.

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*Read before the Section on Surgery at the seventy-eighth annual session of the Mississippi State Medical Association, May 15, 1946.

As with all rules there are some exceptions. There are authentically recorded cases of malignancy with remote metastasis that for some unknown reason have become quiescent and seemingly the patients recovered. This has happened when mistaken diagnosis seemed very unlikely. Much work has been done and is being done to try to explain such a phenomenon and to develop methods by which we might induce such a recession in cancerous processes. Coley's serum represented one of these efforts and the Bell lead therapy was another. These attempts along with many others were failures. However, there are some methods that have yielded at least promising results. Huggins within the past decade called attention to the recession which often occurs in advanced cases of carcinoma of the prostate following removal of the testicles. Much the same results have been obtained by administration of stilbestrol of patients with carcinoma of the prostate. At times we have seen rather spectacular results from both orchidectomy of from stilbestrol administration. Irradiation of the testicles has also proved of value. Less frequently recession has been noted in cases of advanced carcinoma of the breast in young women following removal of the ovaries or irradiation of the ovaries. Unfortunately, there is nothing dependable as to results following castration for either carcinoma of the prostate or carcinoma of the breast, but these encouraging results may eventually lead to some improved and more rational approach to the cancer problem.

Regardless of our hope for the future, the best we can do today is to search for and diagnose cancer early so that it can be destroyed while it is local and before the occurrence of spread. This means that every doctor, surgeon, internist, and every specialist has a heavy responsibility when patients entrust themselves to him for examination and care to be on the lookout for evidence of cancer and thoroughly investigate any suggestion of its presence.

Health is not an inalienable right. It is a privilege. Privileges invariably entail equivalent responsibilities. It is so easy to accept privileges that before long mankind takes them for granted and claims them for inherent rights. Nature grants few rights, preferring to demand that privileges be earned. Health, like freedom and peace, continues only as we exert ourselves wisely to maintain it. Edward J. Stieglitz, M.D., A Future for Preventive Medicine.

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One of the most interesting as well as one of the most instructive medical meetings we have attended was held in connection with the staff meeting of the North Mississippi Hospital at Holly Springs on August 13. Dr. Seale Harris and Dr. Leon S. Smelo of the Seale Harris Clinic, Birmingham, Ala., were the invited guests. Dr. Harris spoke on Banting's miracles and Dr. Smelo summarized in a most thorough manner the subject of diabetes. The life story of Banting by Dr. Harris carries thrills and inspiration. His book, *Banting's Miracles,* is expected to be off the press within the next few weeks. Dr. Smelo has been associated with Dr. Harris for some time and is one of the most thorough students to be found in our Southland. We congratulate the North Mississippi Hospital, its staff, and Dr. Ira Seale and Dr. V. B. Philpot on their first open meeting.

FOR IMMEDIATE ACTION

Excerpts from a statement by the Mississippi State Medical Education Board, Jackson, Miss., the following constitutes a great plan to do something immediately about our doctor shortage and also to offer a helping hand and a glorious opportunity to many of our fine young men who have a professional mind, a medical soul and a missionary heart. The day must be hastened when this state will have an adequate hospital system as a means to carry medical service to every person in this state. The hospital system must have as its heart and soul, its driving power, a four-year medical school to train our own young men just how to fight diseases in the most effective way on our civil firing lines.

Mississippi Medicine March

"To discover the mute and inglorious Miltions, the poor but deserving Cromwells of Mississippi, that should be the preeminent aim and purpose of the medical education scholarship program." So, in brief but cryptic, potent words, spoke Governor Thomas L. Bailey at the inauguration of this scholarship loan program for worthy medical students of Mississippi. A Pasteur, a Lister, a Victor Heiser (author of *The American Doctor's Odyssey*), a Sir William Osler, that gallant knight of surgery, a John B. Murphy, "the stormy petrel of American surgery"—many or all of these may have lived and died in the Magnolia State, with never a chance to reveal to the world the skill of hand or the magic of mind in medical practice. No one of us knows, nor can ever know, how many competent physicians have left Mississippi, or, worse yet, never were trained in Mississippi, and never practiced here because of lack of opportunity, financial drawbacks, and other reasons. Malaria, yellow fever, dysentery, tuberculosis, venereal diseases are scourges. Many, many physicians are needed now, with such an insufficient number of practicing doctors to fight the grim reaper that is always busy claiming many unnecessary deaths annually among our people. Besides research men, laboratory workers, and specialists in medicine and surgery, Mississippi has needed and does need many general practitioners for the treatment of ills and the healing of our people.

Knowing the urgent need of their state for many more physicians in the immediate future, certain members of the 1946 Legislature draft-ed House Bill 431 which passed the House and Senate and, as approved by the governor, established the State Medical Education Board, prescribed the duties of such a board, and provided for loans and scholarships to students desiring to study medicine. This five-member Board includes: the dean of the Medical School of the University of Mississippi, the executive officer of the State Board of Health, and the president of the Mississippi State Medical Association, who serve by virtue of their office, and two members to be appointed by the governor, each of these two members serving a four-year term. An executive secretary is employed by the Board to administer the program. Working offices of the Board are maintained at Jackson.

Commenting on the value of this program, Hon. Walter Sillers, speaker of the house of representatives and author of this legislation, has stated:

"The most urgent and direct contribution which the state can make at this moment is a program which will increase the number of practicing physicians and surgeons within the state. The proof is overwhelming that the number of practicing physicians in Mississippi is far short of the number required to afford the minimum medical service to the people of the state. The shortage is so great that it has not only become alarming but menacing to the health of a large number of our people. This is particularly true with reference to the rural districts of the state.

"I hope the deserving boys and girls who desire to become physicians and surgeons will take advantage of this offer and at the same time lend their efforts to protect the health of our people."

The State Medical Education Board is authorized to grant loans, not exceeding $5,000, over a four-year period, nor over $1,250 in any one school year, for the purpose of assisting medical students to meet the costs of medical education.

Only Mississippi students who have completed premedical college work and are acceptable for enrollment at a Class A medical school are eligible for such loans.

An interested student should obtain application form by writing to the State Medical Education Board, Room 37, North Street Building, Jackson.

As Dr. D. S. Pankratz, chairman of the Board and dean of the Medical School of the University of Mississippi, has emphasized:

"Mississippi is largely a small-town state, with many rural communities in dire need of medical attention. So this scholarship program represents a very definite, progressive step in medical care for the residents of our state. I feel that this is a unique and very liberal legislation which will make history for Mississippi in the field of medicine."

"Citizens of the state of Mississippi, through the Legislature, have, for the first time, provided for scholarships for the study of medicine for young men and women of both races. These scholarships will mean that more Mississippians will study medicine and that during the next few years more physicians will be available to practice medicine in the smaller communities where the need is greatest.

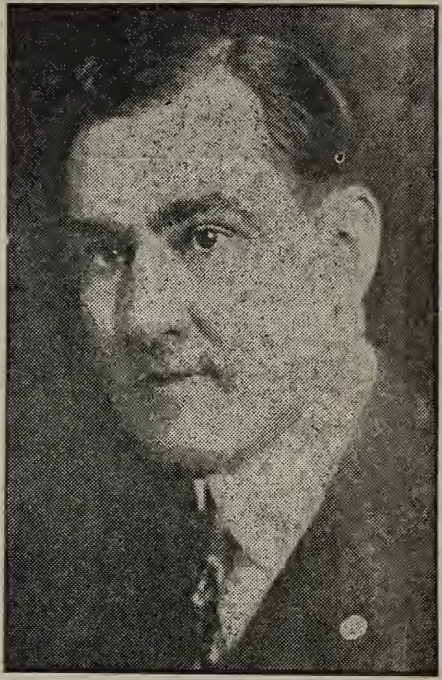
"It is perhaps not too early to predict that the outcome of the medical education program will be that the total supply of physicians will be increased year by year. These young physicians will render many years of useful service and will practice in the smaller communities where the need for physicians is greatest. Many will go beyond the mere fulfillment of a contract and will see the needs of the people, and interpret these needs, and do something about them.

To finance students for the four years of medical school is a primary aim of the program. Assistance during internship and residency is not provided. The state funds are available for those who intend to enter general practice immediately and not for students who wish to specialize or take residency first. Mississippi's need of physicians is acute. Recently, an official of the American Medical Association commented, "We should appeal to the farm group to grow some doctors." That is what Mississippi plans to do—grow an immediate and bumper crop of good doctors for service to Mississippi.

Let us respond to the call of Dr. Bryan for photographs and biographical data of our doctors. This is not only a labor of love for the association, but it is a very important service that will be more valuable as time goes on. To have a picture and a brief summary of the work of each doctor filed in the archives of history is important. In years to come we will be proud of this work that Dr. Bryan is doing. Let us not be derelict in our duty. It will take just a little time, just a little effort to respond to the call of Dr. Bryan.

News and Comment

Dr. C. H. Lutterloh, President
Hot Springs, Ark.



Dr. A. F. Cooper, Secretary
Memphis, Tenn.

The following is a tentative program of the Mid-South Postgraduate Medical Assembly for the coming meeting in February, just announced by Secretary A. F. Cooper. Hundreds of doctors in the mid-South will be delighted to see that such an outstanding program is no nearly completed for the first session since the war.

Dr. Wesley W. Spink, Minneapolis, Minn.
(Brucellosis) Medicine

Dr. Arlie R. Barnes, Rochester, N. Y.
(Cardiology) Medicine

Dr. M. Herbert Barker, Chicago, Ill.
(Infectious Hepatitis or other liver disorders)

Dr. Henry L. Bockus, Philadelphia, Pa.
Gastro-enterology

Dr. C. P. Rhoads, New York, N. Y.
Pathology

Dr. George Cahill, New York, N. Y.
Urology

Dr. R. H. Meade, Chicago, Ill.
Surgery (Thoracic)

Dr. Daniel C. Elkin, Atlanta, Ga.
Surgery

Dr. Alexander T. Martin, New York, N. Y.
Pediatrics

Dr. John R. Lindsay, Chicago, Ill.
Eye, Ear, Nose and Throat

Dr. Daniel C. Darrow, New Haven, Conn.
Pediatrics

Dr. W. L. Benedict, Rochester, Minn.
Ophthalmology

Dr. Emil Novak, Baltimore, Md.
Gynecology

Dr. Wm. J. Dieckman, Chicago, Ill.
Obstetrics

Dr. Norris W. Vaux, Philadelphia, Pa.
Obstetrics

Dr. Warren H. Cole, Chicago, Ill.
Surgery

Dr. Harold Wolff, New York, N. Y.
Neuro-psychiatry

Dr. Carl H. McCaskey, Indianapolis, Ind.
Eye, Ear, Nose and Throat

COMMITTEES APPOINTED

Dr. J. K. Avent, president of the Mississippi State Medical Association, announces the following committee appointments:

Medical Education—Dr. A. V. Beacham, Magnolia, Dr. Percy Wall, Jackson, Dr. R. A. Clanton, Grenada.

Industrial Health—Dr. A. Street, Vicksburg, Dr. J. W. Dugger, Jackson, Dr. Omar Simmons, Newton.

Hygiene and Public Health—Dr. R. C. Ricks, chairman, Jackson.

Cancer—Dr. W. H. Parsons, chairman, Vicksburg, First District—Dr. W. H. Anderson, Booneville, Second District—Dr. John Culley, Oxford, Third District—Dr. Hugh Gamble, Greenville, Fourth District—Dr. John D. Dyer, Houston, Fifth District—Dr. T. E. Ross, Hattiesburg, Sixth District—Dr. K. O. Stingily, Meridian, Seventh District—Dr. W. H. Parsons, Vicksburg. Dr. W. R. Bethea and Dr. A. J. McIlwain, Jackson, Dr. R. H. Fenstermacher, Vicksburg, Dr. D. D. Baugh, Columbus, Dr. J. G. Thompson, Jackson, Dr. N. C. Knight, Greenville, will serve as consultants to the committee.

THE MIAMI MEETING

The Miami meeting of the Southern Medical Association will open at noon on Monday, November 4, the scientific sessions beginning at 2:00 p.m. and will continue through Thursday afternoon, November 7. The general headquarters (registration, information, etc.), scientific, hobby and technical exhibits and some sections will be at the Municipal Auditorium in Bayfront Park on Biscayne Boulevard.

The five principal bayfront hotels on Biscayne Boulevard are: McAllister, Columbus, Colonial, Everglades and Alcazar.

NORTHEAST MISSISSIPPI MEETINGS

The Northeast Mississippi Medical Society, comprising the twenty counties formerly incorporated in the two societies, Northeast Mississippi Thirteen Counties Society and North Mississippi Society, will hold quarterly meetings as follows:

At two o'clock the first Thursday afternoon in October and April, at the University; and the first Thursday afternoon in January and July by invitation.

STUDENTS APPLY FOR SCHOLARSHIPS

Seventeen students have joined the ranks of Mississippi's future men of medicine. The State Medical Education Board has approved scholarship awards for the following:

Barnett, Jim C., Jr., Lumberton; Caldwell, Richard E., Baldwyn; Goode, Paul E., Meridian; Henry, Louise Crum, Batesville; Jensen, Millard, Lucedale; McClatchy, Sam P., Red Banks; McDuffie, S. Jay, Nettleton; McQuinn, William C., Greenwood; Murphy, L. O., Jr., Laurel; Nichols, Marshall F., Jr., Biloxi; Owens, William Francis, Clarksdale; Paslay, Jeff W., Como; Safley, James Edward, Drew; Shaleen, Michael E., Senatobia; Waring Marcus Elton, Tylertown; Wiggins, Joe W., Cruger; and Wood, James P., Clinton.

FROM DR. BRYAN

Dear Dr. Anderson:

Please allow me to stress the fact that my Pictorial History of Mississippi Medicine is NOT a hobby that I am riding but an earnest effort to do a real service to organized medicine and especially to Mississippi doctors. It is the biggest and hardest task I have ever undertaken. Thousands of letters must be written and I find it is not only laborious but quite expensive. Doctors, as a rule, seem to be indifferent but one doctor in the southern part of the state has offered to have his society to contribute to the expense. I had rather this not be done, but I would appreciate a better and more prompt response to my request for pictures and data. I am getting better response from widows and daughters of doctors who are dead than from doctors who are yet alive. Mrs. John B. Howell went to the trouble to take snapshots of doctors, have these developed at her expense, and then drove to Amory and made personal delivery. To me that was wonderful, but she said she knew that **her** doctor, if he were alive, would do as much.

I wish that I might see my friends often; for I get very lonely. Dr. Boswell came to see me last week. He says he will come again and will bring Mrs. Boswell next time. My daughter and nurse bedded me down on the rear seat of the car and carried me down to the Gulf Coast on the first day of August for a vacation.

Yours very truly,
G. S. Bryan

PUBLIC HEALTH

A survey of the East Mississippi Hospital at Meridian has recently been completed. This survey included both patients and employees. A similar survey of the Mississippi State Hospital at Whitfield is now being completed and we hope to offer this same service to the State Penal Institution at Parchman in the near future.

There is now in progress a county-wide survey in Washington County using the first of our 97 mm. bus type ambulatory x-ray units. The delivery of one other such unit is expected in the near future. Since May 1, to date, 6,500 chest films have been made.

A central register for all known cases of tuberculosis in the state has been planned, but due to personnel difficulties both in the central office and in the counties, this part of the program has not been instituted as yet.

The tuberculosis mortality and morbidity rates are on the decline. Now is the time to do all possible in our power to give momentum to this decline. Private physicians have a real opportunity to help bring this disease under control and restore many of their patients to health by full coöperation in this program. Their help is needed.

Fifty-eight county health departments now have their own x-ray equipment and the Tuberculosis Control Unit expects to continue aid in securing equipment for the remainder of the counties.

In April 1946, 182 new cases of tuberculosis were reported in the states or an annual rate of 2,184 cases. This reflects a considerable increase of new cases and is evidence of the effectiveness of the new case-finding program now in the process of rapid expansion.

Many gains have been made in disease control as a result of the improved methods of diagnosis and treatment of the past few years. It behooves physicians and health workers to make the most of these gains if they would give to their time the fullest benefits of the knowledge at hand and thus keep faith with the traditions of their profession.

POLIOMYELITIS

As of July 22, a total of seventy-three cases of poliomyelitis had been reported in the state. These cases were well distributed over the state with little tendency to concentrate in any given area. Of the seventy-three cases reported, twenty were for the week ending July 22. It now appears that the disease may reach epidemic proportions of something like 180 cases, if the seasonal prevalence and trends of previous years are used to measure this year's situation. The following comparisons for recent years may be of interest.

Year	**Cases reported through July**	**Total for the year**
1942	27	62
1943	16	36
1944	44	125
1945	17	80

A disturbing feature in the cases being reported this year is that an unusual proportion has been of the more severe type, with respiratory involvement.

Physicians may contact the local chapters of the National Foundation for Infantile Paralysis for certain assistance for their patients. Also, the local health departments will be glad to render any service possible.

BIOLOGICAL PHOTOGRAPHIC ASSOCIATION

The Biological Photographic Association will hold its sixteenth annual meeting at the Hotel Bismarck in Chicago, September 6, 7, and 8. The planning and production of teaching motion-picture films will be discussed by experts. New equipment for both still and motion picture photography will be demonstrated.

Practical papers on fundamental technics will be presented; as well as more specialized work on endoscopic photography, photomicrography, etc.

TO GRANT MORE SCHOLARSHIPS

The State Medical Education Board in charge of dealing out scholarships to students who will return to practice in Mississippi, today set September 4 as the date of its next meeting.

The board, since putting the new pragram into effect, has approved seventeen scholarships for potential general practioners.

TO START HOSPITAL

Dr. D. V. Galloway, executive director of the Mississippi Commission on Hospital Care, states that the survey for new district hospitals will begin September 1.

The survey is the opening step in the $23,000,000 health and medical improvement program set up for Mississippi by the 1946 legislature.

THE AMERICAN COLLEGE OF PHYSICIANS

Twenty-eighth annual session of the American College of Physicians will be held in Chicago, Ill., April 28-May 2, 1947.

Dr. David P. Barr, New York, is president of the College, and will be in charge of the program of general sessions. Mr. Edward R. Loveland, executive secretary of the College, 4200 Pine Street, Philadelphia 4, will have charge of the general management of the session and the technical exhibits.

NEW QUARTERLY

The Washington Institute of Medicine, 1720 M. St., N. W., Washington 6, D. C., is publishing the *General Practice Clinics*, covering the entire field of medicine. It is to be published quarterly, January, April, July, and October. The subscription price is only five dollars now.

This periodical will summarize the medical field for the busy doctor. The editors have access to the periodicals received at the Surgeon General's office.

ANNOUNCEMENTS

Dr. William Milton Adams announces the re-opening of offices in the practice of plastic surgery, and the association of Dr. Leigh K. Haynes. Address: 902 Madison Avenue, Memphis, Tennessee.

Lee R. Reid, M.D., has reopened his office for the practice of medicine, 745 North State Street, Jackson, Mississippi, practice limited to diseases of the chest. Dr. Reid is also chief surgeon at the Mississippi State Tuberculosis Sanatorium, Sanatorium, Mississippi.

Close to 300 nurses from all sections of the country have been recruited by the American Red Cross within the past few days for poliomyelitis service in a dozen states.

BIRTH CARD ADOPTED BY SEVEN STATES, ONE CITY

Birth cards that fit easily into a billfold are now being issued by seven states and one city. Much handier than a birth certificate, it is a combination birth registration and identification card. The type of card varies with the issuing state. Most states use an indestructible, laminated card, thus assuring that facts will not be changed after issuance. Some include a place for the holder's photograph. On some the person's race is listed along with the date and place of birth, on others merely the father's race is given, the Census Bureau states.

Mississippi was the first state to issue birth cards to people whose birth is registered in the state. Now these handy cards are issued by six other states—California, Nevada, Ohio, Oregon, Tennessee and Washington—and one city—New Orleans.

—Science News Letter, July 20, 1946

FOUR-YEAR SCHOOL

Pass the word from mouth to mouth.
Sound it through the solid South.
Let the Nation learn the truth,
We ourselves can train our youth,
Teach our boys and girls to be
Doctors of the first degree.

Shall we count the money cost?
Shall our leaders thus be lost?
Shall they turn their feet a-far?
Let us keep them where they are.
Let us crown our commonwealth
With a diadem of health.

Learning from the rich young fool,
Let us found a four-year school,
With hospitals, staffed and manned,
Unexcelled in any land.
Make the old Magnolia State
Hale and hearty, good and great.

Shall we hang our heads in shame,
Speaking Mississippi's name?
Proud in arms, with virtue crowned,
Noble, radiant and renowned,
Shall our doctors have to go
Hence for what they need to know?

Pass the word from mouth to mouth.
Sound it through the solid South.
Let the nation learn the truth,
We ourselves can train our youth,
Teach our boys and girls to be
DOCTORS of the FIRST DEGREE.

Written for *THE MISSISSIPPI DOCTOR*

David E. Guyton,
Blue Mountain, Mississippi.

MEDICINE WITHOUT INCENTIVE

The essential fault underlying all the proposals to establish vast Federal public health projects, whereby taxes would be levied on all workers and employers to pay for a compulsory medical system, is that regimented, bureaucratic medicine is inevitably bad medicine. The incentive to progress largely disappears. The drive to experiment, to learn, is lost.

Authorities who have long observed socialized medicine in England and Europe have commented on this. The doctor is overworked. He is simply an employe of the state. And the patient receives poorer treatment as a result.

Millions of men who saw service in the Army and Navy can testify to another phase of this. It is true that very remarkable progress was made in battlefield surgery and the prevention of infection during the war. The death-from-wounds rate was amazingly low. But this was because techniques developed by provite medicine were adopted by the armed forces—and because the overwhelming majority of military doctors were private physicians who donned uniforms to serve during the war and returned to private practice once it ended.

Routine medicine in the military forces is a very different matter. As doctors who saw war service have said, there has been little change since the last war in methods of diagnosis and treatment. The doctor must follow a manual and a set of regulations. He is not a free agent. And progress lags.

Voluntary prepaid medical plans avoid these pitfalls. The cost per person is low, but the doctor receives a reasonable fee. The patient chooses the physician he wants, which perpetuates medical incentive. Nothing yet suggested has equal merit. It will be a sad day for American health when political regimentation dominates the practice of medicine in this country.

HILL-BURTON BILL

The passage of the Hill-Burton Hospital Construction and Survey Bill, S. 191, provides that $375,000,000 in federal funds be apportioned to the states on the basis of need for hospital facilities as determined by an inventory of present hospital beds in each state. The measure carries a separate appropriation of $3,000,000 to assist states to conduct surveys, draft plans and designate where and what types of hospital facilities are necessary.

The American Hospital Association reported that surveys are underway in forty states; seven states are organizing surveys; and only one Missouri state has as yet taken no action. It is expected that surveys will be completed in at least eleven states by October 1.

Book Reviews

OPERATIONS OF GENERAL SURGERY, by Thomas G. Orr, M.D., Professor of Surgery, University of Kansas School of Medicine, Kansas City. Published by W. B. Saunders, Philadelphia, Pa It carries 1396 step-by-step illustrations on 570 figures. The book has 723 pages. Price $10.00.

It carries almost every operation that any general surgeon would be expected to do and many which are commonly done by the specialist. Written especially for the beginner in surgery and the general surgeon, the book is arranged largely by systems, as plastic surgery, urology, and gynecology, rather than on an anatomical basis. A brief description of the anatomy, however, is often given when indicated. Due attention is given to wound healing as well as to treatment of fresh wounds. A great effort has been made to use the most descriptive illustrations. The book contains an illuminating discussion on sutures favoring silk for closing of clean wounds.

This book gives operative technic that can be followed by the average general surgeon and at the same time the specialist will find it most helpful. It is remarkable the amount of technic and general surgical information contained in this one handy volume.

Deaths

DR. TIMOTHY D. WELCH

Funeral services for Dr. Timothy D. Welch, retired physician of Collins, were held July 23 at Bethel Church near Collins.

Dr. Welch died at the South Mississippi Infirmary, after a prolonged illness. Dr. Welch was graduated from the University of Nashville, Tenn., in 1905. He had practiced also in Memphis, Jackson, Vossburg, Seminary, and Ellisville.

He is survived by his wife, Mrs. Nora Estes Welch, three daughters, Miss Phredonia E. Welch and Mrs. Frances W. Guthrie, both of Memphis, Tenn.; and Miss Olivia B. Welch of Winston-Salem, N. C.; one son, Richard Noel Welch of Memphis; one grandson, Bradford Guthrie, also of Memphis; three sisters, Mrs. R. W. Pickering of Laurel; Miss Frances Welch and Miss Dagmar Welch, both of Collins; and one brother, Joe Welch of Bristol, Tenn.

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—homas H. Blake, Jackson.

Public Health—Felix J. Underwood, Jackson.

Pediatirsc—Harvey F. Garrison, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Pathology—R. M. Moore, Vicksburg, Miss.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

EAR, EYE, NOSE AND THROAT

REPORT OF A DEATH FROM PONTOCAINE HYDROCHLORIDE. Ahroon, Williams A., "The Laryngoscope," Volume LVI, No. 6, June, 1946, page 320.

The author reports the death of a 27-year-old housewife following the use of 2% solution of Pontocaine for spraying the throat and instillation in the tracheal-bronchial tree. There are several noteworthy features in the case.

Some ten days previously, the patient had been bronchoscoped at which time approximately 5 cc. of a 2% Pontocaine solution was used, with no ill effects.

The author does not estimate the amount of Pontocaine used in the spray but does estimate a total of 4 cc. of 2% solution injected into the trancheal-bronchial tree. Later analysis of the solution estimated its approximate strength at 6%, instead of 2%.

The patient's symptoms should be noted: She complained of dizziness and an excess of secretions seemed to accumulate in the trachea; these were aspirated, but the patient appeared pale and cold and would not answer questions; her pulse was weak and thready and she had a sudden generalized chronic convulsion of short duration. She was given .065 gram of Sodium Phenobarbital intravenously but five similar convulsions followed. She was given artificial respiration, carbon-dioxide and oxygen mixture by mask, intravenous coramine and intracardiac epinephrine with no avail.

Editor's Note: Other deaths from Pontocaine have previously been reported. The editor was interested in this matter and consulted the manufacturer—The Winthrop Chemical Company. He was advised by the Company that no more than one cc. of a 2% solution, or its equivalent, should be injected into the trachea.

OBSTETRICS AND GYNECOLOGY

WEIGHT CONTROL, DIET AND FLUID BALANCE IN PREGNANCY— Chas. H. Loughran, M.D. Am. Jour. Ob., and Gyn., Vol. 52, No. 1, July, 1946.

It is the author's opinion that the greatest number of those who develop toxemia or dystocia gain inordinately. The pregnant woman needs far more protein than normal to protect her liver and to maintain proper blood serum protein. A definite amount of exercise is important.

The weight allowance was fifteen pounds for the average woman, but the larger the woman, the less gain allowed, and for the unfortunate obese the ideal is no gain whatsoever. Diet consists of protein three times a day supplemented by a diet low in carbohydrate, high in green and yellow vegetables, fruit and certified milk, either skimmed or whole as indicated. Added vitamins are provided. In her first four or five months she is permitted one-fourth pound a week. If she gains beyond her allowance she is put on a 1200-calorie diet. Salt is not restricted in the early months except excessive use is forbidden. If there is a sudden weight gain the fluid balance is checked. Her fluid intake is restricted to her previous day's output. The salt is withdrawn. She may be given magnesium sulfate each morning. No patient is allowed to take less than 600 cc. of fluid a day. If edema persists she may have a nutritional type. These patients are put on a very high protein diet supplemented by hydrolysate of protein and are given 500 cc. of whole plasma by vein.

In a group of 325 cases the length of labor was markedly decreased (6 hours, 17 min.), the babies were all average size, the incidence of dystocia markedly lessened, and any real toxic state totally absent. The average weight gain was 14.9 pounds. Only thirty-two cases showed even the slightest transient edema.

PEDIATRICS

THE PREPARATION AND USE OF CONCENTRATED RED BLOOD CELL TRANSFUSIONS IN INFANCY — Danis, Peter G., ETO, Jackson, K. and Sennott, John S.—Journal of Pediatrics, 28:449 (April) 1946.

"During the last few years, whole blood transfusions of fresh blood have been largely replaced in the writers' hospital by preserved blood because of its availability.

The preparation of bank blood sometimes requires dilution. This enhances, to a degree, its use in conditions associated with any degree of hemoconcentration. However, it is at a distinct disadvantage in the very young infant and child because repeated transfusions are difficult to administer. It is at a disadvantage where one is dealing with hemolytic anemias, both acute and chronic. In order to combat these objections, the writers have concentrated bank blood at the time of use and have administered such blood concentrated to an even greater cell count than that of whole blood, with satisfactory results.

Pediatric patients because of their size are limited as to the volume of fluids that can be administered at any one time. In some instances the accessibility of venipunctures is an important limiting factor. Here the value of concentrated cell transfusion is obvious. Favorable results with blood concentrates on adult patients have been published by different workers who vary slightly in their method of concentrating the blood. The writers have concentrated red blood cells from "bank blood" which is prepared according to the method which is dextrose-citrate-buffer solution. With this, it is necessary to siphon off the supernatant fluid. It has been found that the 'gel' layer of white blood cells and fibrin does not form in sufficient amount to require removal and the resultant concentrate has been given without any difficulty with the usual methods of intravenous administration.

Bank blood, preferably that which has been of recent preparation, is removed without shaking from the cooler. A needle is inserted in the rubber top and attached to a siphon apparatus. A second needle is placed in the top, connecting the upper part of the bottle with the outside air. The first needle is long enough to reach down to the cell layer. The supernatant fluid is then siphoned off. Approximately 600 cc. are removed from the bank blood mixture. That which remains in the bottle now contains a count of approximately seven to eight million red blood cells per cu. mm. This is then used in a routine manner of administration to the patient.

This type of blood has been administered satisfactorily without complication in ten cases of erythroblastosis fetalis, repeatedly in two cases of Cooley's anemia, repeatedly in two cases of acute hemorrhagic nephritis, in anemia of the premature infant, and in a case of cord hemorrhage and one of hemorrhage from the penis in newborn infants, which, including adults, totals 150 cases without mishap.

Advantages of this procedure are:

1. Availability.
2. Method of preparation associated with maximum risk of contamination.
3. Minimum equipment required.
4. High cell volume, where cells are eventually needed, particularly in the newborn.

The following types of cases are indications for the use of concentrated red blood cell transfusions:

1. Hemolytic anemias
    (a) Lederer's acute
    (b) erythroblastosis fetalis
    (c) Cooley's
    (d) target cell
    (e) familial hemolytic
    (f) sickle cell icterus
    (g) macrocytic
    (h) acquired
        (1) poisoning
        (2) infection
2. Aplastic anemia
    (a) infectious
    (b) constitutional
3. Von Jaksch's
4. Anemia of the premature
5. Severe nutritional
6. Hemophilia
7. Thrombopenic purpura
8. Hemorrhagic disease of the newborn
9. Hemorrhagic nephritis
10. Traumatic hemorrhage
    (a) newborn infant
        1) cord

        2) circulation
        3) liver
    (b) child
        1) rupture of spleen
        2) posttonsillectomy

11. Rheumatic fever.

COMMENT: This is a very interesting article and carries with it some valuable suggestions relative to the administration of concentrated red blood cell transfusions. As is noted, there are a number of indications for this type of such transfusions. All in all, this is quite an interesting and valuable article. I trust that it will be of service to our physicians.

SURGERY

There appeared in the *Virginia Medical Monthly,* Vol. 73 pages 301-302, July, 1946, a guest editorial entitled "The Training of the Graduate Nurse," by Harry J. Warthen, M.D., and Carrington Williams, M.D. This editorial by these two eminent surgeons is thought to be of considerable importance and is quoted in full:

"There are many physicians and some graduate nurses who believe that the present policies and practices of the schools, associations, and boards for nursing have brought the profession to a critical cross-road. To continue on the course now being followed will lead to the disappearance of the graduate nurse as we have known her in the past. It is not too late to make a radical revision of the curriculum and restore the training of a graduate nurse to a sane basis. It is evident that many of the nursing educators have not had the vision or desire to produce nurses for the bedside care of the sick. Not many years ago in this state such pressure was brought on the small nursing schools that many were forced to close in spite of the fact that by and large they produced superior clinical nurses and this closure of the schools has been a major factor in the present shortage of nurses.

The solution now offered is to produce two classes of nurses, one with a curriculum more advanced than is now being followed and the other with a training period of only one year. The leaders of the Nurse Cadet Corps have recently envisioned the conversion of the large schools to the training of professional nurses and the smaller schools to vocational nurses. It is our opinion that two classes of nurses are not compatible, that one will fall and the other survive, and that the poorly trained vocational nurse will be the survivor.

The solution, we think, is not too difficult if the authorities in this state will seek a solution for Virginia without influence and pressure from other sources. We propose that the Virginia schools immediately convert to a two-year course with substantial reduction of the didactic work. At the same time in the larger schools postgraduate courses should be offered for training in special lines. It would seem evident that a nurse graduating in two years is adequately trained for bedside nursing and would be superior to the one-year graduate. For those with superior preliminary training, or desire and ability to specialize, the postgraduate year or years would offer unlimited possibilities.

The advantages of this proposal are:

1) The shorter period of training and reduction of expense to the pupil would attract large numbers.
2) One class of nurses of high quality would be continued.
3) Better specialists would result from the planned postgraduate courses.
4) The care of the sick would be restored as the primary objective of graduate nurse training.

One of the major objections to be made by the nursing educators is that such a two-year graduate would be recognized by the boards in the majority of other states. The answer to this is simple: If she so desires, the nurse can continue her education for another year and thereby become eligible to register in the thirty-eight states which now require three years of training; but it is our belief that many other states would quickly fall in line if Virginia would be the pioneer.

The basic law of Virginia and nine other states requires only two years for training a graduate nurse and leaves the details of the curriculum to the Board of Nurse Examiners. It is therefore in the power of our Virginia Board of Nurse Examiners to make the change immediately. We request them to consider seriously making this change. It is an opportunity for Virginia to lead the nation out of a critical situation.

Harry J. Warthen, M.D.
Carrington Williams, M.D.

Comment: Whether one does or does not agree with the authors that the course of training of student nurses should be reduced to two years, it is nonetheless true that this subject is one of great current interest. There has recently been proposed, as Drs. Warthen and Williams have indicated, that there should be two distinct types of nurses trained, namely, a practical nurse and a graduate or registered nurse. It is my own opinion that it requires a minimum period of three years to train a nurse properly. I do, however, definitely agree with the authors just quoted that many small schools have produced superior clinical nurses.

It is probably also true that certain nursing educators have agitated and have made radical revision of the curricula that have not resulted in producing nurses capable of, or interested in, the rendering of adequate bedside care of the sick.

State Board of Health

Felix J. Underwood, M. D.

PREVENTABLE DISEASE CONTROL

July 1, 1945 — May 1, 1946

By A. L. GRAY, M.D., Director

During the past year the Division of Preventable Disease Control has been concerned with reorienting the venereal disease control program, setting in motion an intensified tuberculosis control program, and continuing the general communicable disease program.

Efforts have been made to secure more complete reporting of communicable diseases, particularly tuberculosis, undulant fever and typhus fever. Typhus fever and undulant fever continue to increase and this increase makes it necessary to know the exact problem so that specific control measures may be adopted wherever needed. Two communities have in the past few months had unusual numbers of cases of undulant fever, necessitating special studies to determine sources of infection. In each instance one particular dairy was incriminated through facts found and steps were taken to eliminate these hazards. A small outbreak consisting of eight cases of food poisoning occurred in one community. This was traced to ham served by one particular café.

An unusual outbreak of illness has been in process in and near the town of Collins. There are about twenty-five cases of chronic profuse diarrhea in that community with onsets of illness ranging from November 1, 1945, to the present. Studies by several physicians and outstanding clinic groups have failed to determine the cause. The Division of Preventable Disease Control has studied the situation from the standpoint of diagnosis and epidemiology and further studies are planned. In spite of the epidemiological evidence of a common cause in the form of an infectious or parasitic nature, the usual examination failed to reveal the presence of such an agent.

The constant need for more epidemiological investigations of sporadic cases and groups of cases of communicable diseases made it necessary to employ a person particularly trained in the biological sciences to do this work. Dr. Emil Kotcher was employed for this purpose as of April 1946, and will devote his entire time to epidemiology in the field of acute transmissible diseases. Most of his time is at present being spent on typhus fever, undulant fever, and on malaria in veterans returning from highly malarious war areas.

The American Red Cross diverted its surplus of gamma globulin and plasma to the public through the boards of health of the various states. The supply for Mississippi has been distributed to physicians and hospitals by the Division of Preventable Disease Control through local health departments and direct. Since gamma globulin became available in March 1945, a total of 6,145 packages has been distributed, each package containing 5cc of globulin which is particularly effective in the prevention and modification of measles in contacts to known cases. Since February, 1946, 4,988 units of plasma have been secured and 3,051 have been distributed to physicians and hospitals. It is apparently being used widely and no doubt is contributing much to the treatment of certain types of cases.

This division is now planning an attack on cancer, in coöperation with the American Cancer Society, designed to mobilize and expand the resources of the state for the diagnosis and treatment of cancer. State and federal aid will become available as of July 1, 1946. These funds will be used for lay and physical education, for assisting in supplying necessary x-ray, radium and surgery for treatment, and for assistance in improving diagnostic facilities in various sections of the state.

Venereal Disease Control

This program has been altered in the light of changing needs with reference to military and civilian groups and the advances made in case finding, diagnostic, and treatment methods.

Case finding through all possible channels has been constantly stressed so that the number of contacts being followed and examined has risen from 20,814 in 1944 to 43,696 in 1945, and in the first few months of 1946 to an annual rate in excess of 50,000. Of these contacts of known cases, 52 per cent are found infected. The greatest need in case finding lies in the contacts of private physicians' cases. This group is probably as large as the contacts being treated at public expense and it is obvious that some system must be worked out which will permit thorough case finding among these unsuspecting people. Otherwise the total control program will be greatly retarded. A system is now being developed with the approval of the State Medical Association pointing in the direction of case finding among contacts of private physicians' cases. This system provides for self-interview by private cases without involving the patient-physician relationship. It or some other system should lead to the disclosure of an additional 50,000 contacts of cases not now being reached by public health workers or private physicians.

The treatment program has been augmented by necessary changes in schedule of treatment and groups being treated. The change has moved in the direction of rapid treatment for all types of cases rather than the infectious groups only. Admissions to the treatment centers have increased from 4,153 in 1944 to 17,225 in 1945, and further to an average of 2,000 cases per month in the first five months of 1946. Conversely, patients being treated in local clinics have declined from an average monthly case load of 28,000 in 1942 to approximately 4,000.

At present all types of cases of syphilis are admissible to the treatment centers for evaluation and treatment with rapid therapy as indicated. Shortly there will be no cases treated for syphilis in local clinics, but all will be treated in rapid treatment centers. All uncomplicated gonorrhea is now being treated in local clinics with one injection of penicillin in beeswax or three injections of sodium penicillin in a four-hour period. In the centers, early syphilis is being treated with 1,800,000 units of penicillin plus 300 milligrams of mapharsen and 600 milligrams of bismuth in a nine-day period. Late syphilis is receiving 6,000.000 units of penicillin except selected cases of neurosyphilis which are receiving 6,000,000 units of penicillin, 800 milligrams of bismuth and thirty-six hours of fever therapy at 105 degrees, in a thirty-day period. This group of neurosyphilis cases is being treated in the State Fever Therapy Unit in the Brookhaven Treatment Center under auspices of the Mississippi State Hospital with coöperation of the State Board of Health, United States Public Health Service, and county health departments.

Practically all men with syphilis separated from the armed forces in the last few months have been transported directly from the separation center to the rapid treatment centers for evaluation and treatment as required. This has prevented thousands of infectious cases from returning to their communities and homes.

Needs for the future in this program are:

1. Continued intensive attack by public health workers on all fronts.
2. An increased attack by private physicians in the contacts of these cases by direct methods and/or thorough public health investigate service. It is believed that this is the weakest phase of the total program. This will probably require reporting name and address of patients as certain other communicable diseases are being reported at present.
3. There is a great need for private physicians to use rapid treatment so that a high percentage of their cases will secure adequate treatment rather than a maximum of only 30 per cent of this group now receiving adequate treatment. This involves provisions for a greater

number of private hospital beds for this group of patients.

4. The gonorrhea situation has reached a new height because of moral laxity, soldiers and war workers returning home, etc. This requires intensification of case finding, more thorough treatment by modernized methods, and improved diagnosis with culture. It also requires testing many more people on suspicion.

Tuberculosis Control Unit

The work of the Tuberculosis Control Unit has steadily increased during the year ending.

From two thousand to twenty-five hundred 14 x 17 mm. chest films are being developed, read and reported on each month. Most of these films are exposed by county health department personnel in the various counties using their own x-ray equipment. Those counties not having their own equipment are offered x-ray clinic service twice yearly by a technician employed by the Control Unit.

During recent months the quality of the films made in the counties has shown a marked improvement. This improvement is due in part to the services of a floating clinician used as a trouble shooter when needed.

PREVALENCE OF COMMUNICABLE DISEASES IN MISSISSIPPI

	June 1946	June 1945	June-Five Year. Av.
Acute Poliomyelitis	22	3	8.6
Bacillary Dysentery	1036	1692	2367.4
Dengue	0	0	.8
Diphtheria	17	27	17.2
Influenza	1231	1032	1037.6
Measles	964	1233	855.4
Meningococcus Meningitis	2	12	10.4
Other Forms Meningitis	1	2	1.8
Pellagra	209	239	284.8
Pneumonia	627	591	518.0
Pulmonary Tuberculosis	165	145	160.8
Scarlet Fever	15	30	20.0
Smallpox	0	0	1.2
Tularemia	7	5	9.6
Typhoid Fever	9	14	13.6
Typhus Fever	9	12	12.8
Undulant Fever	17	8	8.6
Whooping Cough	974	820	1210.2

Woman's Auxiliary

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To the Members of the Woman's Auxiliary:
Dear Friends:

Ill health has compelled me to relinquish the practice of medicine. As my last effort in the interest of organized medicine, I am compiling a pictorial history of Mississippi medicine. Mississippi doctors (your husbands, fathers, sons and brothers) have made medical history of which every citizen should feel justly proud. I am trying to preserve this history with which you should be glad to help. I must have your help if I am to succeed. I want the picture of every man who ever practiced medicine in Mississippi (whether living or dead), together with date and place of birth, date and school of graduation or license. This collection will belong to the State Medical Association and will be arranged, kept and displayed, permanently, by the state department of archives and history in Jackson. This will be not only unique, but serviceable to future generations.

Please get busy, AT ONCE, secure these items and forward them to me at Amory. Please urge ALL doctors to coöperate in this tremendous and expensive undertaking. Nothing to buy or sell, no profit to any one in a financial way, but while thousands of letters must be written and mailed, it is purely a labor of love on my part.

With love for my profession, for my doctor friends, and for the members of your organization.

I am, most sincerely yours,
G. S. Bryan.

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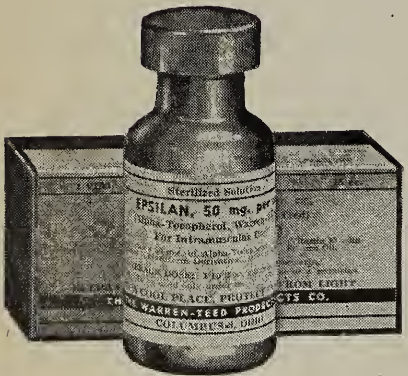

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Problems in Tropical Medicine and Parasitology Among Returnees from World War II*

EDWIN S. KAGY, M.D.

New Orleans, La.

TO REITERATE the argument that the mass movements of population groups and service units which have occurred in World War II have produced problems in tropical medicine and parasitology is trite and perhaps tedious. To speak generally, the military services and the agencies which supervise public health were first to recognize the nature of the problems involved; medical intelligence organizations and epidemiological units have dealt effectively with the problems encountered. Civilian practitioners, additionally, have lent their efforts to the control of these problems. Coöperation among these groups has been successful in guarding the health of our returnees and the population to which they return to a remarkable degree. Some phases of these problems, however, remain to be dealt with in years to come; this paper will attempt to indicate the nature and possible magnitude of such problems and to set forth helpful concepts which may apply to their management.

One point, I feel, is worthy of emphasis at the outset: tropical and parasitological medicine are not exotic, extra-mundane affairs[1]—most of the diseases (saving perhaps African trypanosomiasis and yaws) which are denominated "tropical diseases" are extant or potentially so in our temperate zones—most of them are familiar entities today to the practitioner in the United States.

In conferring with clinicians about this broad subject and in reviewing the literature which relates to it, I have been impressed by one point which I wish to state: on occasion, degrees of apprehension which approach the extreme have been excited by the dissemination of misinformation in sufferers from "rare tropical diseases" and in the groups to which they return; gloomy warnings have been voiced; neurosis bordering upon the psychoses have been initiated. The role of the physician who deals with these cases should contemplate deliberate reassurance for the patient and his family and acceptance unto himself of the responsibility for keeping abreast of the problems and determining their solution.

FILARIASIS

Coggeshall[2] has recently reported upon filariasis in the servicemen; he states that this infection, due to **Wuchereria bancrofti,** was acquired by 10,431 Navy personnel, primarily in the Samoan group of Islands. As clinical manifestations in the early stages he lists lymphangitis, lymphedema, lymphadenitis and funiculitis. One complication of filariasis which is observed after prolonged exposure, elephantiasis, has not occurred in servicemen and its occurrence is not expected due to the removal of the cases from further exposure. In cases observed by him the tendency has been for the disease to ameliorate in clinical severity with the passage of time. No proven specific therapeutic agents exist for the disease; physical rest serves well to control symptoms. Reassurance by the physician is urged since unfounded fears of sexual impotence and sterility cause grave concern to patients and their relatives. In the management of cases of filariasis in persons returning from endemic areas, the existence of signs possibly due to the disease filariasis should not preclude an evaluation of their possible causation by other agencies, as neoplastic processes.

That filariasis may be established in the United States is only remotely probable. One remembers that it was once frequently encountered in an area centering about the state of South Carolina as the result of introduction of heavily infected slaves into that area but has, since 1925, spontaneously disappeared. Climatologic conditions required for the development of the organism in the mosquito are found only in the Gulf Coast states, Georgia and South Carolina. Napier[3] has expressed the view that **circa** fifteen microfilariae per drop of blood must be present in the human case to maintain transmission. Since only twenty of the cases reported by Coggeshall were found to have microfilariae in the peripheral blood, the returnee "cannot be responsible for secondary transmission." The disease requires the intermediation of the mosquito for transfusion, there being no danger in direct contact or in blood transfusion. Complete development has been found to occur in many Culex, Aedes and Anopheles mosquitos[1]. Coggshall's remark: "there is no evidence to suggest that filariasis will be able to spread from servicemen to the community, regardless of their mode of living. This plus the belief that the infection will have no permanent disabling effects, justifies the decision to release men with filariasis from military service", is worthy of repetition. It is not expected that this disease will be a public health problem.

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* Read before the Section on Hygiene and Public Health of the Mississippi State Medical Association, Jackson, Mississippi, May 14, 1946.

JAPANESE "B" ENCEPHALITIS

Reeves and Hammon[4] have shown that seven common species of Western North American mosquitos (Culex, Aedes, Culiseta) can act as vectors for the virus of Japanese "B" encephalitis; this disease is similar to St. Louis encephalitis and is characterized by a high mortality rate. These investigators are led to believe that this virus might well establish itself in North America. Their work, it will be noted, points out avenues of attack leading to control in such an event.

SCHISTOSOMIASIS

There are three types of schistosomiasis a) Manson's b) hematobia (vesical) and c) japonica. The first two types have been infrequently encountered in American servicemen and constitute no problem of magnitude either for the affected persons or for the public health. For Schistosomiasis japonica, however, Faust, Wright, McMullen, and Hunter (Commission on Schistosomiasis, Army Epidemiological Board),[5] report the problem created by the exposure of several hundred American troops on Leyte, Philippine Islands. Well over a thousand cases have been diagnosed and treated in service hospitals; others may be detected. Diagnosis is suspected in persons who have visited endemic areas and who present eosinophilia, diarrhea, dysentery, hepatomegalia, fever, ascites; diagnosis is confirmed by recovery of the characteristic eggs from the stools. Satisfactory treatment is by the intramuscular administration of fuadin. Careful search for snails capable of acting as vectors for this infection in the United States has been made but none have been found, wherefore it is known that the disease will not constitute a problem in public health in this country.

AMEBIC AND BACILLARY DYSENTERY

Amebic and bacillary dysenteries[1,6] are familiar entities to the American physician. Returnees may introduce more virulent strains of the causative organisms of this group of diseases but the nature of the public health problems which they present will be but little changed thereby.

HOOKWORM DISEASE

To the infections with species of Necator which are common in North America at present returnees have brought[7] infections with species of Ancylostoma; these latter infections, clinicians believe, produce disease states of greater clinical severity than do Necator infections.

PLAGUE

All persons in service who entered endemic areas were vaccinated. No clinical cases have been reported from Americans and no new problem exists as a result of the war. Definite need exists for continuation and expansion of the control measures now in force against plague in this country, lest sylvatic plague, now extant in parts of this country, extend in geographical area.

COCCIDIOIDOMYCOSIS

This systemic mycotic disease is assuming serious proportions in the Southwestern United States.[8] Evidence exists that it is gradually spreading eastward across our country. With internal mass movements of our population groups the gravity of the problem is accentuated. The manner of spread is not certainly elucidated. Skin tests with coccidioidin are useful in surveys to determine extent and incidence of the disease.

DENGUE

This disease already exists in this country. No new problems have been determined as the result of the return of servicemen to this country after the war.[9, 10]

YELLOW FEVER

All military persons operating in danger areas have been vaccinated. Support must continue for control programs now enforced by our public health agencies.[9, 10]

AFRICAN TRYPANOSOMIASIS

No cases have been reported from Americans. Since there is no vector for the trypanosomes in this country no epidemiological problem exists.[9]

LEISHMANIASES

There is no evidence that the war has brought about significant changes for the problems that relate to these diseases.[11]

RICKETTSIAL DISEASES

Very few cases of classical louse-borne epidemic typhus have occurred for Americans during this war due to the employment of prophylactic immunization and to the liberal use of DDT in endemic areas. The public health problem that relates to classical typhus is insignificant. Murine typhus presently exists extensively in this country.[10] Of scrub typhus, several hundred American cases occurred but the public health problem due to this disease will not be significant in the United States unless subsequently there should prove to be a recurrent form of this disease (analogous to Brill's disease for epidemic typhus) and that from such a recurrent form mites in this country should be infected.

MALARIA

Russell[12] has sufficiently summarized the lessons learned from study in World War II in malariology; he has primarily emphasized the compelling necessity for the provision in malarious areas of **professional** malaria control organizations to survey, plan, execute and maintain the procedures required for control; he further emphasizes a point in which the practitioner of medicine has interest: that a remarkable tendency toward relapse in Plasmodium vivax infections appears again as it did after World War I (Macedonia). Russell estimates that during this war 12,000 new antimalarial drugs have been tested and forward steps have been made although nothing phenomenal has eventuated. Probably no general increase in cases of malaria among our home population will occur to constitute a compelling problem as the result of the return of migrants[14]. Energetic prosecution in future control of measures now in use by our public health agencies must, in the view of Knies[15], be continued to forfend the dangerous possibility of the entry of **Anopheles gambiae**[13] and **Anopheles albimanus** into this country.

CONCLUSIONS

Discussion of pertinent problems in tropical medicine and parasitology among returnees from World War II has been attempted. It is concluded that, in general, no problems of extreme gravity exist or are to be anticipated. Public health and military organizations, in coöperation with the main body of the medical and allied professions, have dealt and are dealing most adequately with these problems.

DISCUSSION

DR. A. V. BEACHAM (Magnolia) — The time allotted to me in this discussion might best be spent in adding the confirmation of a country doctor and hospital administrator to Dr. Kagy's presentation. In its broader aspects parasitology and tropical medicine in returnees embraces all of the diseases and infestations of the tropical and sub-tropical areas in all their acute, chronic and remittent forms. In these days of rapid transportation, in which the furthermost posts of the world are less than three days away, when one may fly from San Francisco to Hawaii in seven hours, when we may eat breakfast in Central America and have supper in Jackson, Mississippi, no community is invulnerable to diseases even of the shortest incubation periods from the most distant sections of the world. We have seen the evidences of distant transmission of diseases in our sailor and soldier returnees. We shall see them more and more in our civilian population as our world community becomes smaller and smaller.

The most frequently encountered disease, in my limited experience, that is brought back from the tropics by our returnees is malaria. I have had contact with four of these cases. One was a case of acute fulminating estivo-autumnal contracted by a soldier while he slept on the banks of the Amazon River, incubated on his way home and manifested by a temperature of 106 degrees, marked abdominal distention, a rapid, weak pulse and delirium, when he arrived at our institution. The parasites were easily demonstrated. We had no quinine dihydrochloride. Six-tenths gram neo-arsphenamine was administered intravenously, glucose and saline were likewise given in the vein, and quinine hydrochloride and urethane was injected intramuscularly. The temperature dropped promptly; the next morning the patient could take medication and fluid by mouth and his course thereafter was uneventful.

I have seen two cases of chronic malaria with lowgrade fever, unnoticed by the patients, both of whom presented themselves with headaches and malaise. One had been discharged from the service with a diagnosis of psychoneurosis. Both had taken small prophylactic doses of atabrin while in the tropics, apparently sufficient to control acute symptoms but inadequate to cure the disease. Both responded to adequate doses of atabrin.

The fourth case is that of a young physician who has had repeated remissions and in whom atabrin, quinine and plasmochin in adequate doses have not produced a cure. It may be that he falls into that category of chronic malaria in which we must use our antimalarial drugs as purely suppressive therapy until one of the newer drugs proves more effective.

In those cases which present severe generalized aches, particularly in the bones, a leucopenia, and especially if they have a saddleback type of fever curve, we should think of dengue fever. The diagnosis is confirmed by the macular morbilliform to scarlitinaform rash occurring on the legs, thighs, and trunk. I have seen one case of dengue in a returnee.

Amoebiasis we (of this area) must always keep in mind since, like malaria, its introduction to us from the tropics presents no stranger but rather a member of an old family well known to us, long since regarded not merely as a dysentery but known, again like malaria, as a mimic presenting many varied symptoms. I would like Dr. Kagy, if time permits, to sketch for us methods of diagnosis. Dependence upon examination of one or two normally passed stools will cause us to miss many cases.

Bacillary dysentery responds so promptly on sulfadiazene or succinyl-sulfathiazole that it need no longer be considered a major health problem.

Typhus fever I take time to mention here because the war seems to have stepped up both the incidence and virulence of the disease in my area and because the recent introduction of paraamino-benzoic acid in its treatment holds promise of a new era in typhus fever therapy and possibly also in the treatment of other Rickettsial and virus diseases. Youmann and his co-workers have shown that in doses of two to three grams every two to three hours the drug markedly decreases the severity and duration of typhus fever. You may find an excellent discussion of the subject by Henry Penkerton, of St. Louis University, in the Journal of the Southern Medical Association of June, 1945.

Of filiariasis and the other tropical diseases I shall not speak, preferring to leave our remaining time to Dr. Wolfe and Dr. Kagy to bring us further pertinent remarks.

DR. KAGY (closing) — I wish especially, in concluding, to thank Dr. Beacham for helpful and gracious remarks. With respect to his query about the diagnosis of amebiasis, I have these thoughts: a) The most important consideration is that the services of a thoroughly competent, well trained laboratory observer be obtained. b) Most reliance is to be placed upon adequate microscopical study of the freshly-passed stool (both stained and unstained, concentrated and unconcentrated); informed opinion believes that study of at least six specimens of such stools, passed at intervals of not less than twenty-four hours, should be accomplished before finally rendering a negative report. c) Cultural methods as described by Craig[1], may increase facility of diagnosis, as may study of material permanently fixed and stained with iron and hematoxylin. d) On occasion, to examine at proctoscopy material aspirated freshly and directly from mucosal lesions in the lower bowel may permit the diagnosis. e) Finally, a complement fixation test devised by Craig[1] may be helpfully employed.

Concerning the use of emetine in the therapy of amebiasis, I believe this to be a conservative statement: Emetine is a highly toxic drug, which requires to be employed with great circumspection. It is the drug of choice when extra-intestinal amebiasis is to be treated (amebomata, liver abscess, and amebic hepatitis) and should be used in full course, that is, 0.060 gm. subcutaneously once daily for twelve days. No patient should have a second course within a period of eight weeks and a third or additional course should be given only with the greatest caution and after electrocardiographic and clinical studies have given assurance of the absence of myocardial changes and peripheral neuritides. I can hardly urge this point too strongly, inasmuch as both abroad and at home I have seen a number of rather pitiful cardiac invalids, made so by the injudicious use of emetine. Further, the daily subcutaneous injection of 0.060 gm. of emetine hydrochloride at the outset of therapy in a patient with severe dysentery for three to ten days is justified at times to allow the emetine so to control the hyperirritability of the bowel as to permit administration of other amebacidal agents by the oral route. That emetine will control symptoms is well known; that it fails to cure the majority of the cases of intestinal amebiasis to which it alone is administered is also well established. I believe that it will suffice simply to mention the most useful amebacidal agents for oral use: diodoquin, chiniofon, carbasone, vioform.

Dr. Beacham asked further about the therapy of malaria among returnees who relapse repeatedly and for that question I have these thoughts: a) Adequate therapy depends first upon accurate diagnosis—recognition of plasmodia in the blood upon microscopic examination; b) A distinguished Mississippian, Dr. Charles C. Bass, impressed upon me, early in my career, a lesson which I have never forgotten: the patient must actually **take** the antimalarial drug if cure is to be achieved. As physicians, you and I know about the endearing foibles of human nature; we know that cajolery, firmness and ingenuity are, at times, required to cause some of our patients to act for their own best interests. c) In the literature, much emphasis is placed upon the importance of the factor of the passage of time, after return to temperate environment, to effect "cure"; repeatedly, I have seen two years mentioned as the time which will be required in this connection. d) Atabrine almost invariably serves to control parasitemia and clinical symptomatology, if only temporarily; it has been learned that the therapist does well to provide for high initial blood levels for atabrine wherefore 0.3 or 0.2 gm. of the drug are administered every six hours for five doses, to be followed by further doses of 0.1 gm. three times daily for an additional five or six days. e) Alternation of therapeutic agents (quinine, atabrine, plasmochin) with the succeeding relapses is sometimes helpful. Thus one may give atabrine, then quinine or totaquine, alone or in combination with plasmochin, while awaiting the materialization of f) newer drugs, now in clinical experimental stages, which, at first blush, promise well.

With respect to coccidioimycosis: Primary or acute and progressive or chronic forms are recognized. The acute form resembles "influenza" or upper respiratory disease, is associated, on occasion, with nodose or multiform erythematous lesions. During the acute stage, a skin test with coccidioidin becomes positive (and remains so throughout life) as does a complement fixation test (which becomes negative with improvement or remains strongly positive if the grave chronic form supervenes.) Present information indicates that about one case in 500 progresses from the acute to the chronic, serious form. The disease may involve the skin, the skeleton, the internal organs; it stimulates rather closely North American blastomycosis. Its occurrence should be suspected in persons with otherwise unexplained obscure illnesses who have sojourned in endemic areas. Diagnosis is made by adding to clinical and roentgen-ray findings the results of laboratory studies in which the organism, **Coccidioides immitis,** is recovered from lesions either in direct smear or in culture. The coccidioidin skin test, the complement fixation test, and the estimation of the sedimentation rate of the erythrocytes aid in diagnosis and prognosis. Therapy for the progressive and chronic form has employed gentian violet, crystal violet, arsphenamine, copper, tartar emetic, sulfonamides, antibiotics and iodines without marked success. Recently, the group of workers with the disease at Duke University have urged the administration of large doses of thymol in therapy.

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Evaluation of Heart Before Surgery*

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A PAPER ON the possibility of heart failure during surgical procedures is one that requires tact, for the opinions of the internist and the surgeon often do not coincide. Dependence is placed for the most part upon the presence or absence of reliable evidence of a few very serious heart conditions that are known to exaggerate the surgical risk.

CHRONIC MYOCARDIAL DISEASE

Congestive heart failure, with dyspnea, paroxysms, orthopnea, cough or blood expectoration, rales at the base, or congestion of the lungs or liver engorgement and tenderness with or without hydrothorax or ascites must be considered definitely contraindicating surgical treatment in anything except the most urgent emergency. In an exceedingly rare instance it may be found necessary to proceed with an operation in the face of congestive heart failure of high grade and make the best of a well-nigh hopeless situation. If possible, compensation should be restored before operation. Tyrotoxic myocardium will stand operation better than a rheumatic heart. The surgeon's ability to judge the tensile strength of the myocardial muscles is important.

CHRONIC CARDIAC VALVULAR DISEASE

Murmurs are scar damage. Rheumatic valvulitis according to Sprague has a mortality of 8.8 per cent, of which only 2.2 per cent could be attributed to heart disease. You cannot judge by the noise the heart makes how far it will go. The murmur can almost be forgotten in surgery. Patients with mitral and tricuspid stenosis undergo emergency surgery unusually well. The stenosis cases should not have elective surgery. Syphilitic aortitis and valvulitis has a much higher mortality.

HYPERTENSION AND ARTERIOSCLEROSIS

Hypertension increases but slightly the risk of operation. According to Butler there is very little difference in mortality with patients below 160 systolic and those above 160 systolic. In the hypertensive group mortality slowly increases with age. If possible before operation circulatory equilibrium should be obtained. The mortality in all groups of arteriosclerotic and hypertensive disease is 5 per cent. They take virtually any anesthetic well. Third and fourth grade hypertension deserve more consideration.

ANGINA SYNDROME AND CORONARY DISEASE

The Levine series had 7.7 per cent mortality in patients who had only the angina symptoms. But in their cases of coronary thrombosis mortality increased six times. Arranged in an increasing order of importance, the following table may be useful.

1. Inversion of the T wave in the third lead alone.

2. Inversion of the T wave in the first lead alone.

3. Inversion of the T wave in the second lead alone.

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*Read before the Section of Surgery at the annual session of the Mississippi State Medical Association, Jackson, Miss., May 1946.

4. Inversion of the T wave in the first and second lead alone.

5. Inversion T wave in all leads and T waves opposite main deflections.

It is the physician's responsibility to see to it that no heart attack as coronary thrombosis is mistaken for an acute infectious abdominal condition—such errors do happen.

HEPATIC FUNCTION

The manifold duties of the liver as a manufacturing center, store house and detoxifying agent make it one of the most important organs in the patient destined for operation. The bromsulfalein test is easy to do and reliable, and certainly helps to evaluate the heart.

CARDIAC ARRHYTHMIAS

Cardiac rhythm constitutes one of the most frequent conditions that confront the surgeon. Extra systoles, auricular or ventricular, do not have very much weight. Most patients with auriculofibrillation undergo operation exceedingly well with heart block and Adam-Stokes attacks. They are not as hopeless as once thought. Paroxysmal tachycardia has practically no mortality rate. "Evaluation of Heart before Surgery" presents a library of useful thought that time will not permit discussion at present.

THE PATIENT WITH HEART DISEASE AS A SURGICAL RISK

A physician is often asked by his patients or his surgical confrères whether a particular person can undergo an operation. By this is generally meant whether the heart or circulation is good enough to withstand the shock and trauma of an anesthetic, and the manipulation of major surgical procedures. Although this question seems to imply a single responsibility on the part of the physician, the problem is by no means simple. To be of great service to a patient under these circumstances, the internist must ask himself three questions. First, Is the condition a surgical one?. There are situations not at all infrequent in which circulatory disturbances present features closely resembling an acute surgical emergency. Sufficient emphasis has already been placed in recent years on the similarity in the symptomatology and physical observations between an acute coronary thrombosis with abdominal pain and conditions such as ruptured peptic ulcer, gallstone colic or acute pancreatitis. It has been our impression of late that acute rheumatic fever in childhood can cause abdominal pain, tenderness, vomiting, fever and slight leukocytosis, thereby resembling an acute appendicitis. One such instance is included in this study. There are other purely circulatory disturbances that one might mention for which the patient can be erroneously subjected to surgical operations. The second question that must be answered is whether the operation contemplated is indicated in the particular patient with heart disease. Does the prognosis of the heart condition, which may be grave, warrant a palliative operation? For example, a man forty-five years old with angina pectoris, having an inguinal hernia causing only moderate discomfort, might better use appropriate appliances than undergo an operation. The final question and the one that concerns us mainly in this study is, What added risk does a given heart lesion present to the contemplated surgical procedure?

The first of these three questions is one that the internist particularly should keep constantly in mind. It is a matter of accurate preoperative diagnosis. It is not our purpose in this discussion to go into this aspect of the problem, except to emphasize the responsibility of the physician to aid in the diagnosis, and thereby prevent certain unnecessary and possibly disastrous operations. In consideration the second question, a careful estimate of the prognosis of the condition of the heart should be made, and the advantage to be gained by the operation should be inteligently appraised. It is needless to say that a woman with hypertensive heart failure, who may be expected to live only a few years, should be subjected to an operation for repair of the pelvic floor or a mild prolapse of the uterus which could be adequately treated by the use of simple measures such as pessaries. This conception of weighing the prognosis of the cardiac condition against the real need for the operation is lost sight of too frequently.

The problem of interest here is to determine which heart conditions, if any, enhance the operative risk. For this purpose, all the patients with heart disease seen at the Peter Bent Brigham Hospital and in private consultation who were operated on were analyzed. There were 414 cases available for this study. None but definite cases of organic heart diseases were included. There were 120 cases of valvular heart disease, 138 of so-called chronic myocarditis, eighty-six of permanent auricular fibrillation, thirty-five of angina pectoris, twenty of coronary thrombosis, and other less common cardiac conditions that will be discussed separately. It must be borne in mind that the figures frequently overlap, for patients with mitral stenosis might in addition have auricular fibrillation, and they will be analyzed under both headings. It may be appropriate to make clear at this point what type of case is included under the term chronic myocarditis. All of the patients so classified had evidence in their past history of having had congestive heart failure, or presented the same picture during the period of observation in the hospital. Patients with mild or questionable disease with dyspnea who may have shown slight hypertrophy of the heart were not included. These were as far as we could judge, instances of real and significant myocardial insufficiency. In fact, there were fifty patients in this study who had outspoken congestive heart failure during observation, either directly before or after the operation.

An investigation was also carried out that might throw light on the seriousness of different types of operations. In most instances there were too few cases from which to draw any statistical conclusions. There were a few types of operations, however, such as prostatectomy, hysterectomy, cholecystectomy, thyroidectomy and tonsillectomy, in which the number was sufficient for purposes of analysis. There were numerous patients that were operated on more than once. As a risk was incurred with each operation, the mortality statistics were compiled in relation to the number of operations performed rather than to the number of patients involved.

A final consideration in understanding the method of analysis is the distinction between an "unexpected" and an "inevitable" fatality. It is evident that our purpose was to determine what role the heart condition played in the recovery from the surgical operation. Deaths were considered to be inevitable under several sets of circumstances. If death occurred following operation from the apparently fatal heart disease no sooner than if there had been no operation, it was considered inevitable. As an example of this, one might cite amputation of a gangrenous leg in a patient suffering from an acute coronary thrombosis, who died thirty-six hours after the operation. The patient was almost moribund and was expected to die in hours if left alone. A further example is the death from sub-acute bacterial endocarditis about one month following cauterization of the breast in an attempt, with a new procedure, to cure a condition almost always fatal. Likewise, death was regarded as inevitable if a patient was operated on in a moribund condition and died much in the same way as one who was not suffering from heart disease. As an example of this, one of the patients, a man, aged seventy-seven, with a strangulated inguinal hernia, acute intestinal obstruction and preoperative fecal vomiting, was operated on as an emergency measure and died six hours later. Finally, there were four cases of mitral stenosis in which the new operation of cardiotomy and valvulectomy was performed, with fatal results. Because of the nature of this operation, in which the operative mortality might easily be expected to be almost 100 per cent, the fatalities were considered inevitable. It must seem reasonable to eliminate deaths of these types in the calculation of our mortality statistics.

Unexpected deaths were all those which occurred from cardiac failure, from any of the accidents of cardiac disease such as cerebral embolism, cerebral hemorrhage and coronary thrombosis, postoperative pneumonia, or any circulatory or other death that might not have occurred which is natural and an inevitable consequence of the underlying circulatory disease; but, because they took place directly following the operation, they were regarded as unexpected. Mortality statistics throughout this study were made in two figures; first, in relation to the unexpected deaths, and secondly, including the inevitable deaths. Emphasis has been placed on the former figure.

The character of the surgical procedures carried out in these 414 patients is well illustrated in Table 2. The operations performed were in general those carried out in the average surgical clinic. The total number of operations performed was 494. As patients suffering from valvular heart disease frequently are subjected to tonsillectomy, a comparatively minor operation, it is interesting to observe that there were only forty-six such cases in this series. This group happens to include a large portion of our younger patients. Because tonsillectomies account for less than 10 per cent of the total number of operations, the final mortality statistics should not materially prejudice any conclusions of a general nature that may be drawn from the entire series. One might object to the inclusion of an operation such as drainage of an abscess on the ground that it is a minor procedure. The occurrence of three fatalities in this small group is sufficient evidence to the contrary for only serious types of infection were included.

Patients suffering from hyperthyroidism deserve special mention. Only those were considered that showed major abnormalities in the heart. Many of them had types of heart disease that were entirely unrelated to the hyperthyroidism; for example, there were three cases of mitral stenosis, three of aortic insufficiency, three of angina pectoris, two of coronary thrombosis, twenty-five of hypertensive heart disease and one of Adams-Stokes disease.

The rest of the patients had auricular fibrillation, either persistent or paroxysmal, or evidence of myocardial insufficiency. One might properly contend that the latter do not rightly belong in a group regarded as having heart disease. In fact, many such cases of hyperthyroidism with transient fibrillation were not included. Only those were selected for this study in which the heart clinically seemed to present a major problem.

No comparative analysis could be made with regard to different types of anesthesia. There were too few cases in which either chloroform or ethylene gas were used. The anesthetics were divided into only two groups, general and local. In most of the instances of general anesthesia, ether was used, and in a small number gas and oxygen with or without ether. Under local anesthesia were included the ordinary procaine hydrochloride injections, nerve block and spinal anesthesia. It must not be supposed that in the latter group we were dealing with comparatively minor surgical problems. Often a local anesthetic was employed because the patient's condition seemed too serious for a general anesthetic. The relative gravity of the two groups is well indicated by the fact that the total mortality of the patients having local anesthesia was 12.0 per cent, and of those having general anesthesia 12.1 per cent. It is impossible to draw any conclusions as to the relative merits of the anesthesia in these patients, because the individual groups were too small, and because some of the anesthetics were not used at all. It is our impression, however, that either is well tolerated by those suffering from heart disease.

The most important data contained in Table 2 are those indicating the unexpected and inevitable mortality. Among the 494 operations performed on 414 patients, there were sixty deaths in all, a general mortality of 12.1 per cent. In a similar study, Sprague found a mortality of 24.7 per cent in a series of 170 cases with heart disease coming to operation. It is difficult to explain the marked discrepancy in these two figures. We feel convinced, however, that the high percentage obtained by him created a wrong impression as to the risk involved in operating on a patient with heart disease. When our figures were properly analyzed, and only unexpected fatalities were considered, according to the criteria already discussed, it was found that there were only twenty-eight such deaths, or a mortality of 6.3 per cent. In calculating unexpected fatalities, we naturally excluded from the total number of cases those which were considered as inevitable deaths. In view of the type of patients and operations studied in this series, we regard this figure as significantly low, especially when it is borne in mind that the great majority of the deaths occurred in the older group. There were only two unexpected deaths in 128 operations on patients under forty years of age. This will be discussed in greater detail.

VALVULAR HEART DISEASE

There were 120 patients with organic valvular disease on whom 147 operations were performed. Of these, seventy-two had mitral stenosis, thirty-seven had aortic disease either alone or combined with mitral disease and only eleven had mitral insufficiency. One hundred ten patients recovered, having undergone 137 operations. There were only ten deaths, of which three were unexpected and seven inevitable. The mortality for unexpected fatalities was 2.1 per cent. Although there were forty tonsillectomies or nose and throat operations performed in large part on younger persons, the great majority of the remainder had abdominal or pelvic operations, and even in this group deaths were rare. There were eighty-five operations performed on patients over thirty years of age, only a few of which were on the nose and throat; yet there were only three unexpected fatalities. Mention should be made of the inevitable deaths that occurred in this group. There were four patients who died following an heroic and unprecedented attempt to relieve mitral stenosis by cardiotomy and valvulectomy. There were two desperately ill patients who died subsequent to a cardiolysis for adherent pericardium. Finally, in one case, an emergency operation was performed for acute intestinal obstruction and general peritonitis; here the heart had no relation to the eventual outcome. In general, it is a fair conclusion that patients suffering from valvular heart disease undergo surgical operations most satisfactorily.

CHRONIC MYOCARDITIS

There were 138 patients with so-called chronic myocarditis, on whom 167 operations were performed.

All of these patients showed evidence of myocardial insufficiency. Most of them might be considered to be suffering from hypertensive heart disease. All but seven were over forty years of age. Despite the preponderance of elderly patients, there were only eight unexpected fatalities, or 4.9 per cent. Even if the three deaths are included which we considered inevitable, the total mortality would be 6.6 per cent. A review of the eight deaths well illustrates the type of fatality that is classed as unexpected. One was in a woman, aged seventy, who died of bronchopneumonia five weeks after application of a plaster cast for fracture of the leg under a gas-oxygen-ether anesthesia. Another was a man of sixty-one, operated on for a strangulated umbilical hernia (local anesthesia), who died four hours after operation of either pulmonary edema or pulmonary embolism. A man aged sixty-six, had a prostatectomy and developed pneumonia fourteen days after operation; six days later he had empyema which was drained by thoracentesis and two weeks later by thoracostomy. He lived for six weeks and then death took place from general sepsis. Bronchopneumonia, two weeks following operation, was the cause of death in a man of seventy-three, who had an amputation of a toe for arteriosclerotic gangrene, under procaine hydrochloride anesthesia. Another death occurred in a man aged seventy-one, on whom a prostatectomy was done (ether). He died two days after operation quite suddenly, and an autopsy showed marked coronary arteriosclerosis was found. The sixth death was in a man aged sixty-three, who was in a moribund condition at the time of a cholecystectomy; he died the day following operation. The seventh death occurred in a man, aged seventy-nine, who died of pneumonia and empyema nine days after a gastroenterostomy (procaine anesthesia). The last death was in a man aged seventy-two, and who died of bronchopneumonia one day following prostatectomy (procaine anesthesia). Despite these fatalities, the low total mortality again illustrates the fact that patients with a myocardial type of heart disease tolerate operations rather well.

PERMANENT AURICULAR FIBRILLATION

A disturbance of the heart that is frequently regarded as grave in the mind of the physician, and might be looked on as a contraindication to a major surgical operation, is auricular fibrillation. The analysis of our cases in this respect is quite contrary to such a view.

There were eighty-seven patients with permanent auricular fibrillation who were operated on, the great majority being over forty years of age. Seventeen of these had mitral stenosis, twenty-eight had thyroid heart disease, and the remaining forty-two belonged to a heterogeneous group. There were only three unexpected fatalities among ninety-nine operations; *i. e.,* a mortality of 3 per cent. One was in a man, aged eighty-two, who had hypertensive heart failure and who died six days after amputation of a toe followed by hemiplegia and bronchopneumonia. The second was in a man, aged fifty-four, who died of bronchopneumonia nine days after a pylorectomy and gastroenterostomy for cancer of the stomach, and a cholecystectomy for gallstones (ether). The last death was in a woman aged forty-five, suffering from exophthalmic goiter; she died in a thyroid storm two days after bilateral ligation of the thyroid arteries. Notwithstanding these few fatalities, it seems quite evident that permanent auricular fibrillation of itself need hardly be considered a contraindication for any major surgical operation.

MISCELLANEOUS GROUP

There remains a miscellaneous group of heart conditions which was analyzed. In some of these, the number of cases was rather small, but notwithstanding this, significant inferences may be drawn. There were six patients who had paroxysmal auricular tachycardia, three of whom had attacks during the anesthesia. There was no operative mortality in this group. There were seventeen cases of paroxysmal auricular flutter or fibrillation in which nineteen operations were performed. There was only one unexpected fatality (5.9 per cent). Attention has been called in the past to the fact that such attacks of paroxysmal rapid heart action can occur during or following surgical operations and can be satisfactorily controlled. Eleven patients with syphilitic aortitis underwent thirteen operations; all of them had aortic insufficiency and three had aneurysm of the aorta. There was one unexpected death.

The thirty-five patients in this series who had angina pectoris form a very important group. This, to be sure, is a condition in which sudden death is a common occurrence or in which a fatal attack of coronary thrombosis is to be expected at one time or another, entirely apart from the role that any surgical operation may play. Notwithstanding this, there were only three unexpected fatalities out of forty-one operations, or a mortality of 7.7 per cent.

There were twenty cases with coronary thrombosis. This group is rather difficult to analyze, because in some instances the attack of coronary thrombosis antedated the operation and in others it followed operation. In eight instances a preoperative diagnosis of coronary thrombosis was made, and generally the attack had occurred weeks or months before that date of the operation. In five instances the diagnosis was overlooked before operation, while in seven cases the attacks occurred following the operation. There was a considerable unexpected mortality in this entire group, for there were eight deaths (44.5 per cent). It is significant that in the eight patients in whom the diagnosis was made before operation there was only one unexpected death. In the second group, in which the condition was not recognized and in which the patients were operated on during the acute attack, only one of the five survived. In the other group, in which the disease developed after operation, four of the seven patients died. With more careful medical observation and diagnosis, some of these deaths might have been avoided. One patient had an abdominal operation performed during the height of an acute coronary thrombosis and died on the operating table, no surgical conditions being found. This occurred in 1916, before coronary thrombosis was a well known clinical entity; with our present knowledge, it probably would have been avoided. It is interesting that in the five cases that were diagnosed before operation by one of us and treated medically until the cardiac condition was regarded as satisfactory, a subsequent surgical operation was survived. There can be no doubt, however, that in a certain number of patients with coronary artery disease a major surgical operation is a precipitating cause of a coronary thrombosis that develops some time during the postoperative course. All this indicates that coronary artery disease materially increases the operative risk but that operations can be carried out with reasonable security if delayed until a satisfactory recovery from the coronary thrombosis has occurred.

Congestive heart failure is obviously a serious development in the course of heart disease. From the point of view of the present study, patients with congestion before and after operation were grouped together. There were thirty-eight of the former with three unexpected deaths, a mortality of 33.3 per cent, or an average mortality for both groups of 17.1 per cent. One can readily see that the preoperative occurrence of congestive heart failure is not as serious as if it develops after operation. For, in the first instance, improvement in the circulation might be expected from appropriate therapy before the operation is performed, whereas in the second instance congestive failure would have occurred despite the customary treatment for heart failure. The conclusion to be drawn from this small series of cases is that congestive heart failure should be treated as effectively as possible before operation, and that all measures should be employed to prevent its return following operation.

NEPHRITIS AND HEART DISEASE

A study of our patients revealed the fact that a number of them had nephritis and that fatalities appeared to be more frequent among the nephritic than the non-nephritic patients. It is, of course, readily realized that the presence of albuminuria and impaired kidney function as determined by the various tests, in the presence of heart disease, is not necessarily indicative of chronic nephritis. With this point in mind, only those patients were included in this analysis who showed evidence of a true nephritis such as anemia, nitrogen retention, lowered phenolsulphonphthalein output and positive urinary abnormalities. In the whole group there were 359 patients, on whom 433 operations were performed, who did not have nephritis. The unexpected fatalities numbered twenty (4.9 per cent). There were fifty-five patients with nephritis who were subjected to sixty-one operations. In eight cases there was an unexpected fatal outcome, or a mortality of 14.8 per cent. It is obvious from these figures that the mortality among patients with heart disease and nephritis is practically three times that of those suffering from heart disease alone. The reasonable conclusion may be drawn that nephritis, in the presence of heart disease, adds greatly to the operative risk.

HYPERTENSION

It might be thought from the foregoing that nephritis was not the main factor in producing an unfavorable prognosis but that a concomitant hypertension was more important in increasing the operative risk. That such is not the case may be seen from a study of Table 8. The cases were divided into two groups, according to the height of the systolic blood pressure, 160 mm. being arbitrarily chosen as the dividing line. In thirty-one cases the blood pressure was not indicated in the records and these were therefore omitted. Of the rest, there were 245 patients whose blood pressure was below 160 mm., on whom 286 operations had been performed. The total number of unexpected deaths was sixteen (5.9 per cent). In the same group, with blood pressure readings above 160 mm. there were 146 patients and 177 operations; twelve unexpected deaths occurred, a mortality of 7.3 per cent. For practical purposes the percentage mortality in both groups may be said to differ only slightly. Therefore it may properly be inferred that the height of the blood pressure has little influence on the mortality rate. Furthermore a study of the lower part of the table indicates that even patients who had a very high blood pressure were, in general, good surgical risks.

AGE

Table 9 is an analysis of the cases according to different age groups, with particular reference to the mortality. It illustrates what is generally held to be true; i. e., age greatly influences the risk of operation. There is a fairly even distribution throughout the decades except for the years fifty-one to seventy. Of the total 414 patients 167 were under fifty and the remaining 247 were over fifty years of age. In the first group there were 192 operations and five unexpected deaths, a mortality of 2.8 per cent. In the older group, 302 operations were performed with twenty-three unexpected fatalities, or 8.2 per cent. From a consideration of these facts, we may conclude that patients with heart disease demonstrate the general rule that increasing age produces an increase in surgical mortality.

COMMENT

Despite the importance of the question whether a given patient with heart disease can undergo a surgical operation, few systematic analyses have been made in this regard. Hamilton and Kellogg made a study of heart disease in pregnancy and found that in a consecutive series of 252 patients with organic heart disease there were twenty-one maternal deaths (mortality 8.3 per cent). Seventy-three of these patients had shown signs of a failing heart. In general, they believed that the physical abnormalities in the heart itself were of much less importance in determining the prognosis than the past or present evidence of congestive failure. Pardee came to similar general conclusions and stated that the functional condition of the heart rather than the anatomic determined its ability to tolerate pregnancy.

Attention has already been called to the marked discrepancy between the figures obtained in this study and those of Sprague. This is well illustrated in comparing the mortality of the patients with auricular fibrillation. In his group, there were twenty-four patients with nine deaths (37.5 per cent) and in this series, there were eighty-seven cases (108 operations) with only three unexpected deaths, an operative mortality of only 3 per cent. The difference in method of analysis cannot explain this discrepancy, because our total mortality was half that reported by Sprague. The following statement made by Marvin more closely corresponds to the facts established in this study: "A damaged heart, whatever its physical signs, is the equivalent of a normal one for anesthesia and operation if it is carrying out an adequate circulation under normal conditions of life, with the possible exception of the syphilitic heart."

Although not many years ago the risk from operation on thyrocardiac patients was generally regarded as being great, the recent report by Lahey of a mortality of 3.6 per cent in a group of 142 patients indicates the progress which has been made in the medical and surgical management of these cases.

The most significant point that has come from this study is that there were only twenty-eight unexpected deaths in a total of 494 operations performed on 414 patients suffering from heart disease. This is a mortality of 6.3 per cent, and even if the inevitable deaths are included, making a total of sixty, the mortality is still only 12.1 per cent. A large number of these unexpected deaths can properly be regarded as accidents that occur in the natural course of heart disease or of surgical operations. A patient with mitral stenosis and auricular fibrillation who has never had any surgical operation will at times dislodge thrombi with subsequent embolic phenomena, such as hemiplegia or pulmonary infarction. Frequently, likewise, patients with angina pectoris will during their life develop a fatal attack of coronary thrombosis. The low mortality that we found in the patients with mitral stenosis, auricular fibrillation and angina pectoris indicates that a surgical operation with its accompanying anesthesia cannot be a frequent precipitating cause of such complications. It is our opinion, however, that there is a slight tendency for such disasters to occur in the wake of an operation. Similarly, postoperatively pulmonary complications or postoperative pneumonia would naturally develop in patients with or without heart disease. When death follows under such circumstances, it has been considered to be unexpected, although it is obvious that the heart disease had little or nothing to do with it, because, had the operation not been performed, the fatal complication would not have taken place.

The type of patient concerning whom the internist's opinion is most frequently asked is the man of advanced years with an enlarged prostate in whom appears the signs of early cardiac failure. A series of 500 consecutive prostatectomies was reviewed, and only those presenting a definite history or signs of myocardial failure were selected. On these sixty-two men, sixty-six operations were performed, with three unexpected deaths (4.6 per cent). In general, such patients came through the operation very well, and our impression is that with adequate cardiac therapy before and after operation, the condition of the heart is not a contraindication to any necessary surgery.

The highest mortality (44.5 per cent) occurred in coronary thrombosis. In those cases, however, in which the coronary accident had taken place some time prior to operation and had been recognized and properly treated, the mortality was only 14.3 per cent. In some patients who had preoperative attack of coronary thrombosis, the diagnosis was not properly made. The mortality in this group was exceedingly high, 75 per cent. Another class developed the disease following operation and here the mortality was 57.1 per cent. So far as we can discover, there is no way of forecasting the event as it occurred in this last group. There are several lessons to be learned with regard to coronary thrombosis. A proper preoperative diagnosis will prevent the mistake of operating on some patients who are actually in the midst of an attack of acute coronary thrombosis in which the clinical picture stimulates a surgical condition. Secondly, an accurate diagnosis will enable one adequately to treat the condition for several weeks and thus render the necessary subsequent operation much less hazardous. Finally, when surgical intervention is imperative in the midst of an attack of coronary thrombosis, it must be expected that the operative mortality will be great.

It is frequently stated or intimated by surgeons and physicians that, when a patient succumbs to an operation, the fatality was due to heart failure. Except so far as death is synchronous with the cessation of the heart beat, circulatory failure is rarely the cause of death. Certainly if as low an operative mortality as was found in this study could occur in patients suffering with known heart disease, it must be true that the heart under ordinary circumstances is rarely the cause of postoperative death.

SUMMARY

1. Four hundred and fourteen patients suffering from heart disease, who underwent 494 operations, were studied in order to determine the risk of operation and the role played by the heart on the outcome. Deaths were divided into two types, "unexpected" and "inevitable." There were twenty-eight unexpected deaths; *i. e.,* a mortality of 6.3 per cent.

2. One hundred and forty-seven operations were performed on 120 patients with valvular heart disease, with three unexpected deaths; *i. e.,* a mortality of 2.1 per cent.

3. One hundred and sixty-seven operations were performed on 138 patients having chronic

myocarditis, with eight unexpected deaths; *i. e.,* a mortality of 4.9 per cent. These patients were mostly older persons and tolerated operation well.

4. There were 108 operations performed on eighty-seven patients with auricular fibrillation, with three unexpected deaths; *i. e.,* a mortality of 3 per cent. Contrary to the general opinion, the risk of operating on such patients is not great.

5. Forty-one operations were performed on thirty-five patients having angina pectoris, with three unexpected deaths, *i. e.,* a mortality of 7.7 per cent. There seems to be slight risk of coronary thrombosis following in the wake of surgical intervention in patients with angina pectoris.

6. There were twenty operations performed on as many patients with coronary thrombosis. There were eight unexpected deaths; *i. e.,* a mortality of 44.5 per cent. Various measures discussed here should materially diminish this high death rate.

7. Thirteen operations were performed on eleven patients with syphilitic aortitis. There was one unexpected death.

8. There were six patients with paroxysmal tachycardia, three of whom had attacks during operation and three after operation. All recovered.

9. There were fifty operations performed on as many patients with congestive heart failure. There were seven unexpected deaths; *i. e.,* a mortality of 17.1 per cent.

10. There were 433 operations performed on 359 patients having heart disease without nephritis. Twenty unexpected deaths occurred; *i. e.,* a mortality of 4.9 per cent. There were sixty-one operations performed on fifty-five patients having heart disease with nephritis, with eight unexpected deaths; *i. e.,* a mortality of 14.8 per cent. This well illustrates the increase in risk which results from the presence of nephritis.

11. The survival of the patient with heart disease is not the only consideration. Conditions for which there are nonoperative palliative methods of treatment should not be subjected to surgery when the heart disease is so grave that the ultimate life expectancy, at best, is short.

12. In most types of heart disease, the surgical risk is not appreciably greater than in the normal person. In some in which the risk would be great, it may be materially diminished with proper preoperative diagnosis and therapy.

DISCUSSION

DR. DOUGLAS BAUGH (Columbus) — You have just heard Dr. Avent describe to you the degree of surgical risk entailed when each type of heart disease comes to operation. The central thought of the paper is that, regardless of the type of heart disease present when surgery is contemplated, the degree of cardiac reserve must be balanced against the urgency of the operation. The surgeon's concern should not be simply, "How much surgery can this patient's heart stand?"

When examining a surgical patient for the presence or absence of heart disease a definite routine of procedure should be adopted. It is helpful to recall that when the patient is under the age of thirty-five or forty, at least ninety per cent of organic cardiac disease is associated with valvular defects, resulting from rheumatic or congenital heart disease. Most of these defects produce characteristic murmurs, making the use of the stethoscope, (together with the history and other physical examinations) of relatively great importance.

Beyond middle age some rheumatic heart disease is seen, but the great majority of cardiac cases are either hypertensive or coronary. This group often requires (in addition to the history, physical and laboratory examinations to the history, physical and laboratory examinations) x-rays and cardiograms before evaluation of the heart is possible. The history of chest pain, dyspnea, edema, diabetes or hypertension makes these tests more nearly mandatory.

WILLARD H. PARSONS (Vicksburg) — Dr. Avent has just discussed a subject of enormous clinical importance. Certainly before any patient is subjected to any surgical procedure a very careful study should be made of the cardiac status. Some of the acute abdominal lesions, particularly of the gallbladder, stomach and pancreas, may present a clinical picture suggestive of acute coronary thrombosis. Likewise patients having acute coronary thrombosis may at first glance appear to be suffering from an acute abdominal catastrophe. Usually if the patient is properly studied the correct diagnosis can be determined.

While lesions of the gallbladder are by no means confined to the female, such lesions are of more frequent occurrence in this sex. On the contrary, in the absence of hypertension, acute coronary closure in the female is relatively rare. Perforations of the duodenum and certain disease of the pancreas are seen more frequently in the male than in the female, and here the differential diagnosis may be difficult. It is in this particular type of patient that the coöperation of a skilled and experienced internist is invaluable. It is well to remember that few catastrophes present so urgent an indication for surgical intervention that a few hours cannot be devoted to adequate study of the patient. In individuals where the differential diagnosis between cardiac and upper abdominal lesions is difficult, usually in a very few hours definite electrocardiographic, or other evidence, of coronary disease will be evident if indeed the person suffers from coronary closure.

One of my associates and I a few years previously studied rather carefully the records of one hundred consecutive patients, the youngest of whom was sixty years of age and the oldest eighty-four with reference to the incidence of cardiac complication encountered postoperatively. Of this group of one hundred patients, whose ages averaged seventy-years, thirty had cardiac complications recognized preoperatively and four of the thirty patients failed to survive. The mortality in this group of elderly people known preoperatively to have significant disease of the heart was 13.3 per cent, but cardiac disease itself was not the cause of a single death. Contrary to a fairly general opinion it seldom is the cause of death in a properly managed surgical patient.

On the other hand this study did confirm another conclusion; namely, that the association of renal disease with cardiac disease materially increases the risk of surgery. This was particularly true of a group of emergency operations on my own service in which group time did not permit the preparation which such patients ordinarily undergo.

It is my own feeling that patients having congestive heart failure may usually be improved by adequate preoperative care carried on best by an internist and that this group of patients will probably, largely because of associated renal complications, present a definitely increased surgical hazard. Patients having acute coronary closure ought not in my judgment be subjected to any surgery other than very positively indicated emergency procedure within a period of six months from the time of their most recent occlusion. This group of patients, however, tolerate surgery remarkably well and, provided their preoperative preparation and postoperative care is adequate, do not present a prohibitive risk.

That is particularly true since the recognition of the frequency of thrombosis of the veins of the legs with subsequent pulmonary infarcts and the establishment of the therapeutic maneuvers of sympathetic nerve blocks, vein interruption and anti-coagulant therapy.

The penalty which modern man pays for his strong mind may be a weak back, suggests Dr. Clarence A. Splithoff in a report to *The American Journal of Surgery.*

When man assumed the upright posture, he not only set himself apart from the animal kingdom, but he also set the stage for a series of low back ailments which have plagued him since, Dr. Splithoff said.

No other part of the skeleton is more subject to failure or deviation in development, the report explained, probably because the evolutionary process is still continuing—aimed at a gradual strengthening of the bones of the lower back so as to support the greater stress of erect posture.

The spinal column of an infant is similar to that of primates such as the champanzee—practically straight and not very strong. And even though the lower spine elongates with growth, and becomes somewhat stronger, it apparently never develops sufficiently to prevent the numerous aches and pains from which modern man suffers.

The Mississippi Doctor

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Our medical associations which were interrupted by the war are all on the way back: the Mississippi Hospital Association convenes at the Edgewater Gulf Hotel, Miss., October 17-19; the American Railway Surgeons in Chicago, October 30; the Southern Medical Association in Miami, Fla., November 4-7; the Mid-South Postgraduate Assembly in Memphis in February; and the Mississippi State Medical Association on the Coast the first Tuesday in May.

We deeply appreciate the kindness and the patience of our readers and our advertisers. For more than two years we have been unable to come out on time on account of shortage of labor. We have been unable to fill all orders for reprints. But only recently have we been handicapped for space because of paper shortage. With improvement in our labor situation we now think we will be able to come out on time, supply reprints, and gradually increase the size of the journal.

We solicit every support to make this the most serviceable journal in the country. Mississippi is in a transitional period in medicine. We are on the way to a fine hospital system, we think, and also for a much-needed four-year medical school. Medical service promises to keep pace with other progress in our state in a fine way. With the scholarship system we now have and the progress in other ways just mentioned the doctor shortage will gradually clear up. The shortage of good plain every day nurses is a most important problem with us yet. These in a large way must be supplied from the small hospitals which give them training for service to the rank and file. We thank you with deep appreciation and say let us, "Go Forward."

ERRATUM

The Northeast Mississippi Society will hold its next quarterly meeting on the **second** Thursday afternoon in October, which is October 10, at the University.

The Tulane faculty will have charge of the program and Dr. Lapham, dean, will be the chief speaker at the banquet which will be at the Mansion Cafe in town at six o'clock.

Now that Mississippi is on the way to a better and a more complete hospital system a timely trend would be for veterans to be treated in their home hospital. The system of veterans hospitals that we have throughout the nation is a rather vicious form of state medicine. It may have advantages, but the evils are great. It does seem that many of the veterans should be allowed to go to the hospital of their choice and to the doctor of their choice. This would have a great power in leveling medical service out to all the people, out to the small hospitals in the small towns. Let us think most sincerely along this line.

The dean of organized medicine in Mississippi is no more. Dr. Dan Williams passed to his reward September 1. He will be missed in organized medicine. A man of deep conviction and courage, we loved him for his sincerity of purpose and his devotion to organized medicine. In the next issue of the journal the eulogy delivered at his funeral by our versatile orator, Dr. Percy Wall, will be reproduced.

News and Comment

FROM DR. BRYAN

This communication is addressed, first to the members of the Mississippi State Board of Health and secondly to every doctor who is practicing in the state of Mississippi.

In 1908 I became a member of the Board of Health and served in this capacity for several years. At that time the standards of medicine and medical ideals in Mississippi were at the lowest possible stage. It is true that there were a few medical giants in the state and there had always been men of this type to be found in the state. But, as stated above, the tide was at low ebb. There really were no legal requirements for license to practice medicine. The requirements and standards were fixed by a group of thirteen men who held membership in this board, largely by political preference, only five of whom were chosen by the state medical association. At that time I, together with four others (Drs. John Darrington, D. J. Williams, E. A. Cheek and Lois V. Dickerson), made involuntary sacrifice of our personal interests and permitted ourselves to be drafed by the association and pledged ourselves to raise medical standards and promote public health interests in the state. Fortunately, Mr. Noel, who was governor at that time, selected some of the strongest men of our profession and some of the best qualified men in the state to help us in this undertaking. It would require all the pages of one issue of the journal to mention the details of the program instituted and to give credit to all the men who have worked so faithfully to bring this program into full fruition. Suffice it to say that it has been done.

Only last month I visited my dear friend and noble war horse, D. J. Williams, who is fast slipping away. I found his mind to be wavering but in a lucid moment, with tears in his eyes but flashing battle as of yore, he grasped my hand and said, with pride in his voice, "Bryan, we started this fight, and, by golly, we are winning it!" In this moment of time I felt fully repaid for any sacrifice I may have made and all the effort I may have put forth if it helped to give him this moment of exultation.

But the purpose of this communication is to set forth the fact that the doctors of Mississippi have, in the past, made history of which I am proud, and I think every citizen in the state should, also, feel pride. Every doctor who ever worked in the state helped to make this history and I am anxious that it should be preserved. The surest, the cheapest and the best way, I think, to do this is to procure and keep pictures of all these men or as many as possible whether they be living or dead and keep these pictures where they may be seen for generations yet to come. I am trying to do this, but complete success can not be attained without the coöperation of all doctors and their wives, widows and friends. When I was a member of the Board of Health we were frequently taken advantage of by applicants for license who hired men better qualified than they were to substitute for them and take the examination for them. Realizing this to be true, I introduced a resolution which was adopted and became a rule which still prevails that each applicant shall present with his application a photo of himself—this for identification ONLY. When this was done the picture might well be destroyed since it had served fully its only function. However, I understand that these pictures have been kept and are now in the hands of the Board of Health. If all these pictures should be turned into this collection my work would be accomplished with but little trouble and expense to me. As it is, thousands of letters must be written and mailed. This is pretty hard on an old man who is handicapped by ill health as I am. Please let me have ALL these pictures that are uselessly kept. I assure you that they will be jealously kept and when the collection shall have been completed it will be placed in the state department of archives and history there to be preserved and displayed permanently. This collection will belong to the Mississippi State Medical Association. My work and the expense attached to it will be but a labor of love by one has been highly honored by his profession and one who loves every member of this profession. Please do this and relieve me of the necessity of a great deal of hard work and considerable expense. Then let me suggest that in the future ALL pictures collected from applicants for license be immediately placed with the collection in the department of Jackson. In this way the register will be kept up to date for all time.

Please help me in every way you can. Letter writing is a tedious thing for me. But, so help me "Moses," my hand has been set to the plough and I will not look back.

Yours very truly,
G. S. Bryan

W. H. BRANDON, M.D.

Dr. W. H. Brandon of Clarksdale is the very active president of the Mississippi State Hospital Association which will hold a two-and-a-half-day session at the Edgewater Gulf Hotel, October 17-19. Heretofore the hospital association has been meeting for one day and night just before the state medical association. It was decided by the officers of the association this year that hospitals have become so important and their problems so many and varied that a three-day session should be tried at a separate date. The interests of the hospital and doctors are really one.

VAN METER PRIZE AWARD

The American Association for the Study of Goiter again offers the Van Meter Prize Award of $300.00 and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting which will be held in Atlanta, Georgia, April 3, 4, 5, 1947, providing essays of sufficient merit are presented in competition.

RED CROSS HEALTH ADVISER NAMED TO FAMED NURSE GROUP

Anna D. Wolf, director of nursing and nursing service at Johns Hopkins Hospital, Baltimore, and member of the American National Red Cross advisory board on health services, has been appointed to the Grand Council of the Florence Nightingale Foundation.

PRACTITIONERS TO MEET

The third annual meeting of the Mississippi Medical Editors' Association will be held at the Jefferson Hotel in St. Louis, Wednesday evening, September 25, during the eleventh annual meeting of the Mississippi Valley Medical Society.

GOVERNOR FOR MISSISSIPPI

At the annual meeting of the American College of Chest Physicians held at San Francisco, June 27-30, 1946, Dr. Robert E. Schwartz, Hattiesburg, was elected governor of the College for the state of Mississippi.

ANNOUNCEMENTS

Dr. Buford Word wishes to announce the new location of his offices for the practice of gynecology and obstetrics, at 929 South Twentieth Street, Birmingham, Alabama.

The Methodist Hospital of Memphis, Tennessee, announces the appointment of H. Davis Chipps, M.D., as pathologist and director of laboratories. Dr. Chipps is a diplomate of the American Boards of Pathologic Anatomy and Clinical Pathology.

The Consolidated Medical Assembly of West Tennessee met at the New Southern Hotel Tuesday, September 3, 1946, at 6:30 p.m. for dinner.

Dr. D. O. Ferris, Mayo Clinic, lectured with pictures on "Simultaneous Bilateral Ureterosigmoidostomy and Total Cystectomy for Carcinoma of the Bladder." This was one of the most outstanding programs this society ever had.

Deaths

DR. SMYTHE HOWARD

Dr. Smythe Howard, age forty-seven, passed away at a hospital in Jackson August 14 after an illness of several days' duration.

Dr. Howard, a practicing physician, was born and reared in Carthage but has made his home in Jackson for the past twenty-four years.

Dr. Howard received his degree from the University of Tennessee in 1925.

He is survived by his wife, Mrs. Aline Howard, and one son by her, Howard J. Howard; five children by a former marriage, H. Smythe Howard, Jr., Louis H. Howard, Helen V. Howard, and Mrs. James E. Hutcherson, all of Jackson; one grandchild; Nancy Helen Hutcherson, Jackson; and one brother, Louis H. Howard, Austin, Texas.

DR. DANIEL WILLIAMS

Dr. Daniel John Williams, former director of the Harrison County Health Department, died in September at the home of his sister, Mrs. Dora Howell of Gulfport. He was seventy-eight.

Dr. Williams was a graduate of Mississippi College at Clinton and Tulane University. He was chairman of the Council of the Mississippi Medical Association and an ex-officio executive member. He had served as councilor since 1903, except for 1912, while acting president of the Mississippi State Medical Association.

In 1944 Dr. Williams was made an honorary life member of the Mississippi State Medical Association, Southern Medical Association and American Medical Association.

Dr. Williams organized the first local medical society in the state in Jones County in 1896, every doctor in the county being a member of the society. Appointed director of Harrison County Health Department, in 1915, Dr. Williams established a record for the reduction of malaria. The department is the oldest unit in continuous service in the United States.

At the time of his death, he was director of Claiborne County Health Department, having served in this capacity for the past two years.

Dr. Williams was a Mason and a member of the First Baptist Church.

In addition to his sister, Dr. Williams leaves a brother, I. M. Williams, an attorney of Dallas.

DR. H. U. SANDERS

Services for Dr. Harmon U. Sanders, physician who died August 16, were held August 18 at Grenada.

Dr. Sanders, who was seventy-three, was born in Yazoo County and had practiced medicine here for about thirty years. He was a member of the Methodist Church. He was a graduate of Tulane University.

He leaves his wife, Mrs. Amanda Sanders; two daughters, Mrs. Eva Watson of Hatch, N. M., and Mrs. Maxwell Stanford of Carrollton; four sons, James Sanders, Jr., of Muskogee, Okla., Marcus Sanders of Carrollton and Wyman Sanders of Jackson; a brother, John Sanders of Carrollton, and two sisters, Mrs. Tom McCormack of McCarley, Miss., and Mrs. Fannie Doyle of Mangum, Okla.

DR. B. J. SHAW

Dr. B. J. Shaw of Slate Spring, practicing physician and member of the State Board of Health, died at the Houston Hospital in Houston, Miss., August 6 after a brief illness.

Dr. Shaw, who was sixty-seven at the time of his death, had practiced medicine in Slate Spring since 1915 and had been a member of the State Board of Health since 1928. He was widely known throughout the state among the medical profession and was greatly beloved by the people of the community in which he had practiced medicine for more than thirty years.

He was graduated in 1904 from the Memphis Hospital Medical College, Memphis, Tenn.

DR. JAMES B. DAVIS

Pearl River Countains paid tribute to Dr. James B. Davis who died August 9 at the Poplarville Hospital after seven months of illness. He was fifty-one.

In 1919 Dr. Davis graduated from the medical school of the University of Mississippi and received a degree in medicine from Tulane University in 1921. He served a period of internship at the University Hospital in Oklahoma City, Okla. He served in the Navy during World War I.

After leaving Oklahoma City, Dr. Davis practiced medicine at Houston and Electric Mills. He later moved to Tylertown. Fifteen years ago Dr. Davis went to Poplarville where he was associated with Dr. H. B. Cowart in the operation of the Poplarville Hospital.

Dr. Davis was a member of the American Legion, the Masonic Lodge, Phi Rho Sigma medical fraternity, the Mississippi Medical Association and was a colonel on the staff of Governor Thomas L. Bailey.

In addition to his wife, Mrs. Rose Knox Elliott Davis, Dr. Davis is survived by two children, Alice Ann Davis and J. B. Davis, Jr.; his father, Terrell R. Davis, age eighty-four, of Bruce; four brothers, M. E. Davis, Wm. J. Davis and Dr. Shed H. Davis, all of Bruce, and Dudley R. Davis of Houlka; and three sisters, Mrs. L. G. Hollis, Derma, Miss Winnie Davis, Bruce, and Mrs. W. Hall Wilbanks, New Albany.

DR. T. H. WALL

Dr. T. H. Wall, practicing medical physician of Scooba, died following a heart attack there August 20.

Born in Centerville, Miss., in 1878. He received his medical education at Louisville Medical College, Louisville, Ky., and was licensed in Mississippi in 1901.

DR. D. T. LANGSTON

Dr. D. T. Langston, practicing physician of Newhebron for thirty-five years, died August 24 from the effect of a heart attack suffered a few days previously. He was a Baptist and a Mason. He was sixty-two.

Dr. Langston was graduated from Tulane University, New Orleans, La., in 1910.

Survivors are: his wife, Mrs. Ida Andrews Langston, five sons, Dewitt, John, Paul, Henry and Harold Langston all of Newhebron; seven brothers, Obid and Horace Langston, Oakvale, Less and Wallace Langston, Mt. Bellevue, Texas, Ben Langston, Fortworth, Clay Langston, Sandy Hook, one sister, Miss Mae Langston, Oakvale.

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Ear, Nose and Throat—Edley Jones, Vicksburg.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—homas H. Blake, Jackson.

Public Health—Felix J. Underwood, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Pathology—R. M. Moore, Vicksburg, Miss.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

PEDIATRICS

LABORATORY AND CLINICAL CRITERIA OF RHEUMATIC CARDITIS IN CHILDREN — Leo M. Taran, M.D., Brooklyn, N. Y. — The Journal of Pediatrics, July, 1946.

It is very apt and correctly stated by the author of this article that "Obviously, in any workable program for the care and management of a disease of unknown etiology, a specific, clear-cut method for making a diagnosis is to be ardently desired. It is equally true, however, that when a definite diagnosis has been established, medical care and management will be guided by a clear recognition of all the evasive clinical and subclinical manifestations of the activity of the disease."

Two questions are very pertinent in this article: "When can one be certain that the disease has terminated?" And "What are the diagnostic criteria for the cessation of the active rheumatic process?"

"It has been the common experience of students in this field that many patients, without obvious clinical or laboratory evidence of rheumatic activity, continue to show progressive cardiac damage. These patients have been suspected of having mild, clinically undetectable, active rheumatic disease. 'Sub-acute carditis, which is insidious and subclinical, occurs more frequently than the acute phase of the disease.'

It is also widely held that the recurrence risk in rheumatic disease is significantly higher, the shorter the lapse of time from the cessation of the active rheumatic episode. In addition, it is well known that patients having had active rheumatic carditis, have a greater recurrence risk than those without a history of carditis. These observations would seem to point to the necessity for a clear definition of rheumatic recurrence, with special reference to the reactivation defined as carditis. Does a patient have an early recurrence of rheumatic disease after an active episode or are the new clinical manifestations a continuation of the active process? The so-called "quiescent interval" might thus be considered as a form of mild rheumatic activity, presenting none of the classical and accepted criteria for rheumatic activity.

"In recent years, many laboratory tests have been proposed to measure rheumatic activity. These have established in the mind of the general practitioner, a confident method of determining when the disease is no longer active. While it is widely known that none of these criteria singly, or in combination, can possibly act as an adequate screening method for rheumatic activity, a great reliance is placed upon them even by those who have seen, repeatedly, many exceptions to the rule. It is true that the student of rheumatic disease does not consider the many laboratory methods as specific tests for the diagnosis of the disease, but he is inclined to consider them as pertinent "in evaluating the presence of active rheumatic fever."

I am giving his comment and summary:

COMMENT

"There is solid evidence that bed rest is the important form of treatment for rheumatic carditis. We are impressed with this concept, notwithstanding the modern tendency to shorten bed rest in cardiac disease. This observation is based upon a large experience with rheumatic children. If management and care of rheumatic carditis is predicted upon this conviction, the importance of diagnostic criteria for rheumatic carditis is obvious. Of even greater importance then, would be the introduction of clear-cut criteria for the cessation of active rheumatic disease. For, once one is certain that the active inflammatory process in the heart muscle has subsided, management can safely be changed from bed rest to normal activities without fear of encouraging further cardiac damage.

In the last few years, much reliance has been placed upon certain laboratory measurements used as criteria for evaluation of the progress of active rheumatic disease. These, we believe, have been placed in improper perspective, relative to their significance as diagnostic criteria. None of the currently used clinical measurements, singly or in combination, can be used as specific diagnostic criteria for active rheumatic carditis.

While abnormal clinical measurements are recorded in all cases of acute carditis at the onset, it is obvious from this group of cases that all of the tests became normal in 25 per cent of the children before the cessation of carditis. It is also apparent that a few cases show no clinical evidence of active carditis while some of the laboratory measurements are still abnormal. These observations would seem to point to the concept that our current laboratory measurements may not be a specific expression of the acute process, but rather a manifestation of specific host-reaction to a disease process. Some patients show a high degree of adaptation to the disease process. In these, the abnormal laboratory measurements return to a normal level readily, although the disease process continues. Other patients show a poor adaptation in this respect. In these, the laboratory measurements continue to be abnormal for a longer period. A few individuals continue to manifest laboratory abnormalities after the disease process has subsided.

Experience with the cases presented in this paper once again brings to the foreground the fact that final decision, as regards the presence or absence of active rheumatic disease, rests upon clinical judgment. This, as in all other medical problems, is a product of continued careful observation and examination of large numbers of children with rheumatic disease over the entire period of rheumatic activity, and for years following the active episode. We are impressed with the observation that clinical assessment of the patient as a whole and careful evaluation of ausculatory findings in an actively inflamed rheumatic heart, are more nearly accurate screening methods for mild rheumatic carditis than those laboratory tests currently adhered to.

SUMMARY

1. Two hundred children with rheumatic carditis were studied under controlled conditions.

2. The observation was made that laboratory measurements, such as temperature, white blood count, pulse rate, auriculoventricular conduction, sedimentation rate, weight, hemoglobin, and vital capacity, are inadequate in finally determining when active carditis has ceased.

3. Clinical judgment and careful observation of the patient and his heart add 25 per cent more cases with a diagnosis of active rheumatic carditis, when all laboratory criteria have failed.

COMMENT

The author of this article has had quite an experience in the study of this disease in several hundred boys and girls in hospitals and children's clinics. His experience has been closely related to that of many other authors on this subject. The comment and summary of this article state pretty accurately his findings and his observations, as well as suggestions and recommendations in the handling of these cases. It has also been our experience that while laboratory procedures certainly give aid and encouragement, and occasionally discouragement, to those who are handling cases of rheumatic fever or an acute or chronic carditis in children, we are not inclined to depreciate the value of these laboratory aids, both in diagnosis as well as prognosis in the treatment of these cases, as much as the author. We would, however, whole-heartedly agree with the author that after all, the clinical signs and symptoms are perhaps our greatest aid in the diagnosis, prognosis and treatment of this disease. We certainly want to insist on the time-honored and almost universally respected treatment by rest. For the family physician who is attempting to treat these cases, it may be said that the comment and summary of this article are perhaps sufficient to give him a clear outline as to the points of vital interest in the article.

State Board of Health

Felix J. Underwood, M. D.

AN INTESTINAL PARASITE CONTROL PROGRAM IN HARRISON COUNTY, MISSISSIPPI, 1945-46

by

Robert E. Rothermel, M.D., J. S. Rineer, M.A. and E. C. Hertzler, M.A. Gulfport, Miss.

Several surveys have been made to determine the incidence of hookworm disease in Harrison County. From 1910 to 1914 the Rockefeller Sanitary Commission[1] conducted a hookworm control program in the state. During that survey, 518 specimens were collected in Harrison County, 69.5 per cent of which were found to have hookworm. In 1932-1933, Keller, Leathers and Ricks[2] made another survey. During this survey, 903 specimens were collected from nine points in Harrison County of which 22.9 per cent were positive for hookworm.

Records of the Mississippi State Board of Health[3,4] show that from 1917 to 1945 there were 11,337 new privies installed in Harrison County and 13,806 old privies were restored to a satisfactory sanitary condition. In 1944, the city of Biloxi completed the first municipal sewage treatment plant in the county. To date about 825 connections have been made to the system.

The intestinal parasite control program for the 1945-46 school year was planned by various staff members of the Harrison County Health Department and was carried out by personnel from Civilian Public Service Camp No. 141. It was planned to locate hookworm cases by making a survey of the school children of the county and to follow up all cases with treatment as well as educational and sanitation work. The coöperation of school officials was readily obtained by personal interviews. Letters were sent to all parents and then each school was visited. The hookworm problem was discussed with the pupils with the aid of charts and pictures. Following this, the pupils were asked to submit specimens for laboratory examination.

Each child was given a packet including a half ounce ointment tin for the specimen which was enclosed in a one ounce ointment tin for added protection in mailing. These two were enclosed in a heavy brown envelope stamped with blanks for the required personal information about the sender. These and an instruction slip were finally enclosed in a franked, mailing envelope addressed to the health department. This system met the approval of postal authorities and required a minimum of effort for the child or parent.

Specimens were received in good condition by the local health department laboratory. There they were tested using the zinc sulfate flotation, centrifugal technic[5], and all parasitic forms found were recorded. Everyone who sent in a specimen was informed of the results of this test. If the report was negative or if a non-pathogenic parasite was found, the parents were so informed by letter. If a pathogenic parasite other than hookworm was found, the parents were informed by letter and requested to visit their family physician with the information. When hookworm was found, a personal visit was made to the home. A complete explanation of hookworm disease was made to the parent with the aid of simple charts. Packets of epsom salts and the proper size capsules of tetrachlorethylene were given to the parent with oral and printed instructions. Specimen packets were left for the other members of the family and for a second, post-treatment specimen from the patient.

When homes were found to be without proper means of sanitary excreta disposal, the parents were uged to obtain a sanitary pit privy which was prefabricated and installed for the cost of materials by the Civilian Public Service Unit.

Another part of the intestinal parasite control program consisted of a house to house survey of excreta disposal systems, water supply, and screening. A representative of the health department and one from the Civilian Public Service Unit visited the homes and explained the necessity of good sanitary facilities. When indicated, home owners were urged to purchase sanitary pit privies. Complete, cross-indexed records of these visits were filed for future use of the department.

RESULTS

The statistics in chart 1 reveal the work done in the course of the program.

Letters Mailed	5540
Groups spoken to	121
Persons spoken to	5641
Stool specimens examined	2605
Families visited with medicine	496
Privies installed	480
Scout camp sewerage system installed	1
Public school toilets installed	8
Homes visited in sanitation survey	2565

CHART I
STATISTICS OF INTESTINAL PARASITE PROGRAM

Chart II shows the results of the tests in each of the 23 schools contacted. Twenty-one hundred (2100) pupils representing 60.5% of the total enrollments submitted specimens. Of these, 27.8% were found to have hookworm, and 22% had some other intestinal parasite.

School	Enrolled Pupils	Specimens Examined		Hookworm found		Round-worm		Whip-worm found		Pin-worm found		Giardia lamblia		Other parasites		Total No. duplicates	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Advance	75	54	72.0	34	62.9	0	0	2	3.7	0	0	0	0	0	0	35	65.0
Dedeaux	222	124	55.9	95	76.5	1	0.8	2	1.6	1	0.8	3	2.4	0	0	97	78.2
Delisle	96	77	80.3	41	53.3	0	0	7	9.1	0	0	3	3.9	0	0	46	59.7
*D'Iberville	210	109	52.0	26	23.9	9	8.2	14	12.8	3	2.8	6	5.5	0	0	50	45.9
*Fernwood	94	64	68.0	12	18.7	3	4.7	4	6.2	0	0	5	7.8	1	1.6	17	26.6
*Gerenflo	315	247	78.4	42	17.0	56	22.6	98	39.6	8	3.2	11	4.5	1	0.4	143	57.9
Handsboro	115	82	71.3	12	14.6	1	1.2	2	2.4	2	2.4	1	1.2	0	0	17	20.7
Lizanna	76	34	44.7	18	53.0	0	0	0	0	0	0	1	2.9	0	0	19	55.9
Lyman	185	84	45.5	29	34.5	0	0	0	0	0	0	5	5.9	1	1.2	34	40.5
Miss. City	122	89	72.9	4	4.5	1	1.1	3	2.0	5	3.4	10	6.8	0	0	43	29.2
Orange Grove	320	147	46.0	29	19.7	2	1.4	2	2.3	1	1.1	4	4.5	0	0	10	11.5
*Pass Christian	268	139	51.8	23	16.5	15	10.8	31	22.0	3	2.2	6	4.3	2	1.4	58	41.7
*Pineville	73	49	67.1	16	32.6	4	8.2	5	10.2	0	0.0	3	6.1	0	0	15	30.6
*St. Joseph	210	149	71.0	19	12.8	22	14.7	51	34.1	6	4.0	13	8.7	3	2.0	82	55.0
*St. Theresa	114	65	57.0	2	3.1	8	12.3	12	18.5	2	3.1	1	1.5	1	1.5	19	29.2
*St. Thomas	75	68	90.6	3	4.4	0	0	2	2.9	1	1.5	3	4.4	0	0.0	9	13.2
Saucier	207	82	79.6	38	46.4	2	2.4	2	2.4	0	0.0	5	6.1	2	2.4	47	57.4
Sellers	156	89	57.0	43	48.4	1	1.1	0	0	0	0.0	12	13.5	2	2.2	52	58.5
Success	140	103	73.5	54	52.5	1	1.0	1	1.0	0	0.0	2	1.9	1	1.0	57	55.4
Woolmarket	179	93	52.7	37	39.8	0	0	1	1.1	1	1.1	4	4.3	2	2.1	42	45.1
†Mt. Calvary	35	34	97.0	0	0	3	8.8	0	0.0	0	0.0	1	3.0	0	0.0	5	1.5
†N. Gulfport	150	98	65.4	9	9.2	1	1.2	1	1.2	0	0.0	3	3.0	0	0.0	14	14.3
†Long Beach	27	20	74.1	1	5.0	1	5.0	6	30.0	1	5.0	0	0.0	0	0.0	7	35.0
Total schools	3464	2100	60.5	587	27.8	131	6.2	246	11.7	34	1.6	102	4.8	16	0.8	918	43.7
Non school		291		146	50.5	22	7.5	13	4.5	1	0.3	14	4.8	10	3.4		
Second specimens		214		114	52.7												
Total examined		2605															

Schools are rural unless noted * for Coastal-Urban or † for Negro. Last column excludes duplication due to multiple infestations. Non-school group includes pre-school children and adults contacted in home visits.

CHART II. RESULTS OF LABORATORY TESTS ON SPECIMENS SUBMITTED BY PUPILS OF TWENTY-THREE SCHOOLS.

In chart III the schools are separated into three groups: rural, coastal-urban, and Negro. All but one of the rural schools of the county and about one-third of the coastal-urban and Negro schools participated in the survey. The laboratory tests revealed that the rural schools have a very high rate of hookworm infestation (46.4%) and a low rate for other intestinal parasites (4%). The opposite is true for the coastal-urban schools where relatively little hookworm (14.1%) and many other parasites (27.4%) were found. The Negro children had few cases of any kind of parasite (6.6% hookworm, 10.5% others).

	Rural		Coastal-Urban		Negro	
	no.	%	no.	%	no.	%
Pupils enrolled	1729		1523		212	
Specimens submitted	939	(54.3)	1012	(66.5)	152	(71.9)
Hookworm found	434	(46.4)	143	(14.1)	10	(6.6)
Round-worm found	11	(1.2)	115	(13.8)	5	(3.3)
Whip-worm found	23	(2.5)	210	(24.0)	7	(4.6)
Pin-worm found	48	(5.1)	51	(5.0)	3	(2.0)
Giardia lamblia found	7	(0.8)	26	(2.6)	1	(0.6)
Other parasites found	8	(6.8)	8	(0.8)	0	(0.0)
Total without duplicates	472	(50.4)	420	(41.5)	26	(17.1)

CHART III. RESULTS OF LABORATORY TESTS WHEN SCHOOLS ARE GROUPED ACCORDING TO AREA AND RACE.

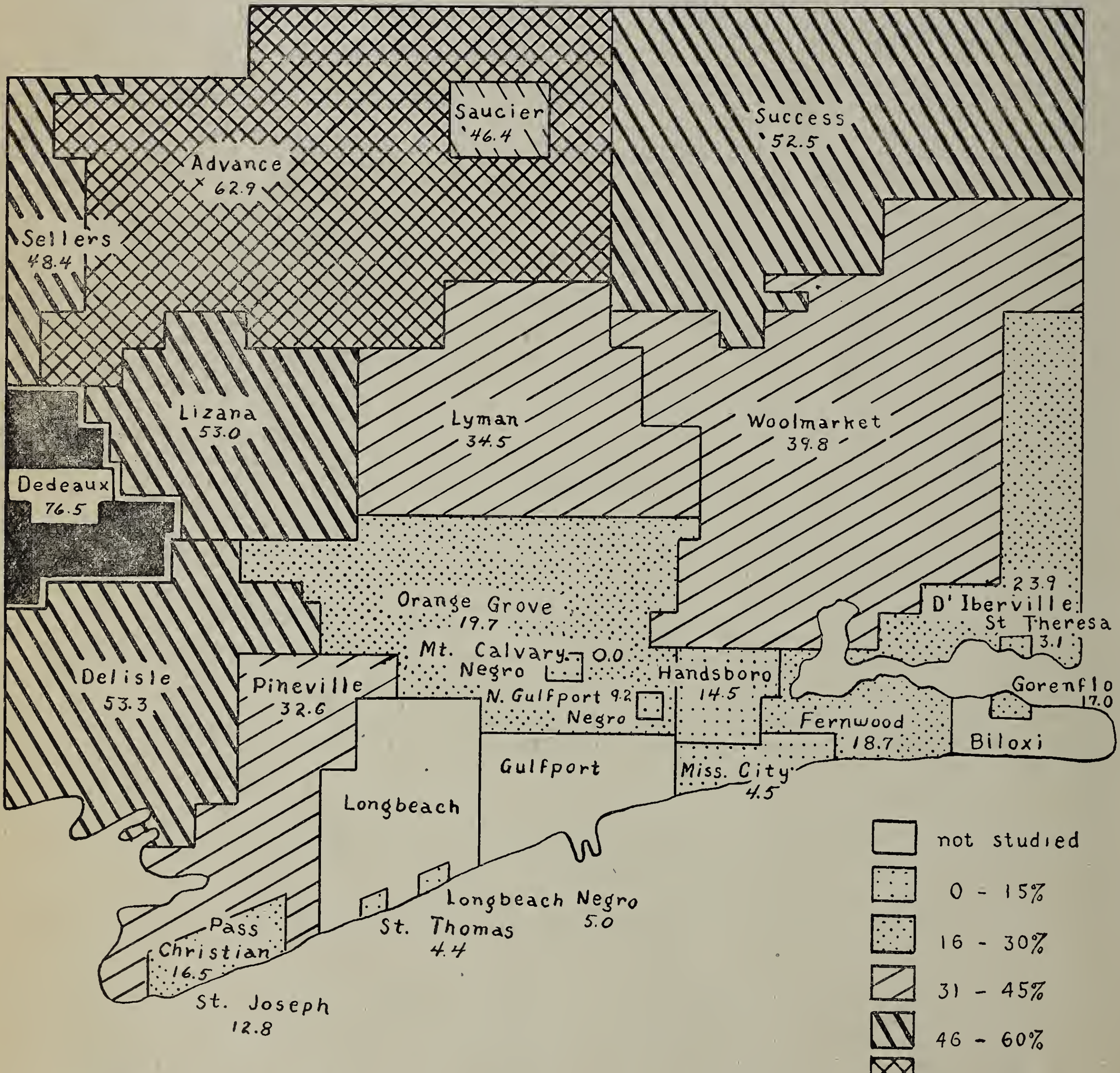

Saucier
46.4
Success
52.5
Advance
62.9
Sellers
48.4
Lizana
53.0
Lyman
34.5
Woolmarket
39.8
Dedeaux
76.5
Orange Grove
19.7
Mt. Calvary
Negro
0.0
D' Iberville
23.9
St Theresa
3.1
Handsboro
14.5
N. Gulfport 9.2
Negro
Gorenflo
17.0
Fernwood
18.7
Biloxi
Delisle
53.3
Pineville
32.6
Gulfport
Miss. City
4.5
Longbeach
Longbeach Negro
5.0
St. Thomas
4.4
Pass
Christian
16.5
St. Joseph
12.8
not studied
0 - 15%
16 - 30%
31 - 45%
46 - 60%
61 - 75%
Over 76%

CHART IV. MAP OF HARRISON COUNTY SHOWING AMOUNT OF HOOKWORM FOUND IN EACH SCHOOL DISTRICT.

	AGE GROUPS 0-5	6-10	11-15	16-19	20 & over
Specimens Examined	247	1164	681	114	145
Male specimens examined	137	550	343	48	50
Female specimens examined	110	614	338	66	95
Hookworm in males					
Number	32	147	114	15	18
Per Cent	23.4	26.7	33.2	31.3	36.0
Hookworm in females					
Number	27	163	116	27	29
Per cent	24.5	26.6	34.3	40.9	30.5
Round-Worm					
Number	30	92	36		
Per cent	12.1	719	5.3	0	0
Whip-Worm					
Number	17	165	70	5	3
Per cent	6.9	14.2	10.3	4.4	2.1
Pin-Worm					
Number	5	22	9	1	1
Per cent	2.0	1.9	1.3	0.9	0.7
Giardia lamblia					
Number	13	69	33	3	2
Per cent	5.3	5.9	4.9	2.6	1.4

CHART V. NUMBER OF CASES OF PARASITES FOUND AND PERCENTAGE OF EACH AGE GROUP OF WHITE CHILDREN.

(Chart VI next page)

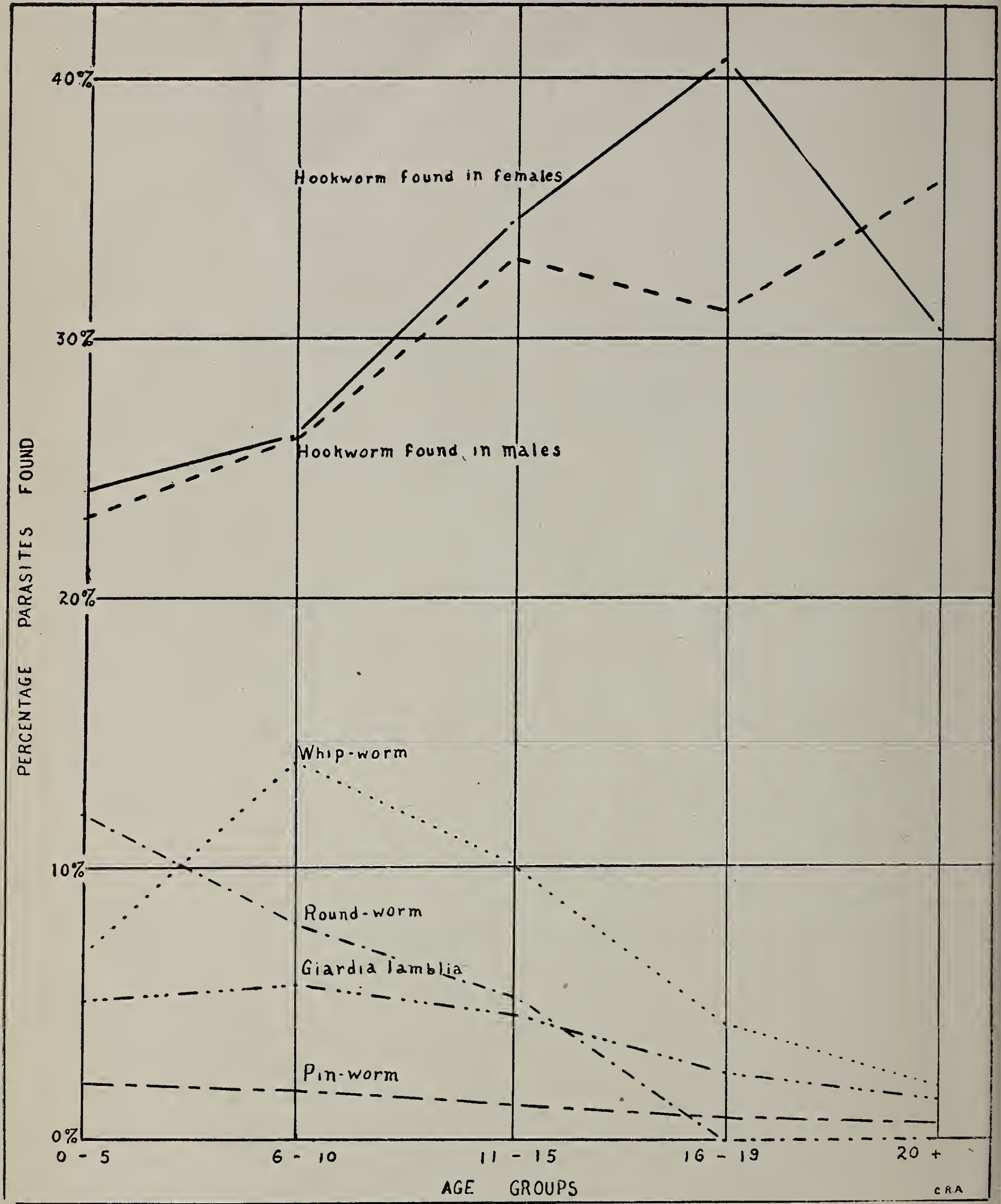
School District	Homes visited	PRIVY insanit.	PRIVY none	Water Supply insan.	Water Supply none	Screening insan.	Screening none	Bought C.P.S. privy
Advance & Saucier	189	87 (48%)	21 (11%)	135	24	111	56	16
Dedeaux	40	17 (42%)	16 (40%)	27	6	3	34	4
Delisle	72	46 (64%)	14 (19%)	53	5	18	40	5
*D'Iberville	307	196 (64%)	36 (12%)	68	6	103	25	89
*Fernwood	73	44 (60%)	7 (10%)	30	1	11	2	4
*Handsboro	30	10 (33%)	3(10%)	5	0	3	0	2
Lizanna	66	37 (57%)	13 (20%)	49	4	9	36	12
Lyman	153	94 (61%)	7 (5%)	108	10	31	22	16
*Miss. City	29	9 (31%)	1 (3%)	5	0	1	0	1
*Orange Grove	230	154 (67%)	18 (8%)	96	26	43	51	34
*Pass Christian	106	78 (73%)	6 (5%)	11	2	29	23	6
Pineville	39	33 (84%)	2 (5%)	23	2	7	7	7
Sellers	22	9 (41%)	2 (9%)	13	2	2	12	1
Success	73	34 (47%)	9 (12%)	46	7	19	20	16
Woolmarket	121	70 (58%)	12 (10%)	82	4	30	11	30
†Mt. Calvary	18	14 (78%)	2 (12%)	18	0	4	13	2
†North Gulfport	136	118 (87%)	5 (4%)	18	20	18	26	20
†Long Beach	25	20 (80%)	2 (8%)	14	0	8	4	3
Other white homes	186	129 (69%)	29 (16%)	56	5	36	29	41
Other negro homes	650	448 (69%)	41 (6%)	100	42	191	131	52
TOTAL	2565	1647 (64%)	264 (9%)	957	166	677	542	361

Schools are rural unless noted * for coastal-urban or † for negro.

CHART VII. RESULTS OF SANITARY SURVEY.

In charts V and VI the white participants are divided into five age groups, and the percentage of each group with the various parasites is plotted. This is done for each sex of those having hookworm and shows the highest incidence for girls in the 16-19 year old groups and the highest for boys in the 11-15 year group. Round-worm *Ascarislum-*

CHART VI. PERCENTAGE OF PARASITES FOUND ACCORDING TO AGE GROUPS



bricoides) and pin-worm (*Enterobius vermicularis*) have their peak in the pre-school group (0-5). Whip-worm (*Trichuris trichiura*) and Giardia lamblia reach a peak in the 6-10 year group.

Thirty-seven per cent (37%) of the children had only one intestinal parasite; 6.25% had two parasites; and 1.2% had three or more parasites. A sanitary survey was made on 311 homes having a child with hookworm. Of these, 157 or 51% had sanitary toilet facilities. Two hundred sixteen (216) children who were found to have hookworm in this survey submitted second specimens after taking the treatment. Of these, 102 or 47.3% were negative. Those who still had hookworm were notified and given medicine for a second treatment.

In chart VII the results of the sanitation survey of 2565 homes are tabulated. The statistics are arranged according to school districts in order to correspond to chart II. This reveals that 64.2% of the homes visited had insanitary privies according to the standard of the Mississippi State Board of Health; 9.2% had none. Fourteen per cent (14%) of these homes subsequently purchased CPS sanitary pit privies.

		Rural		Coastal-Urban		Negro	
		No.	%	No.	%	No.	%
Homes visited		1005		545		212	
Privy	Insanitary	581	58	337	62	152	85
	None	114	1	53	10	9	5
Water	Insanitary	632	63	119	22	50	28
Supply	None	90	9	9	2	20	11
Screens	Insanitary	273	27	147	27	30	17
	None	289	29	50	9	43	24
Bought CPS Privy		144	14	102	19	25	14

CHART VIII. RESULTS OF SANITARY SURVEY TABULATED BY AREA AND RACE.

In chart VIII the sanitation survey is tabulated according to area and race. The statistics included are from the school districts listed on chart III. The survey of rural homes reached most of the homes and thus provides valid statistics. However, the coastal-urban and Negro surveys are too limited, and some selective factors have probably increased the percentages above the actual conditions.

In chart IX, the statistics previously stated for rural school hookworm incidence and rural home excreta disposal facilities are combined in one chart. It is seen at once that there is no relationship between the rate of hookworm infection and the percentage of homes with insanitary privies. However, the chart does reveal some correlation between the rate of hookworm infestation and the percentage of homes without any privies.

DISCUSSION

It would be most interesting to make this study the basis for a comparison of the present rate of hookworm infestation with that at the time of previous surveys. However, it is shown here that the incidence varies greatly in three population groups: rural, coastal-urban, and Negro. Since previous studies were not analyzed on this basis, comparisons are not possible.

This study does emphasize that in spite of surveys, treatment, and large privy building programs, the rate of hookworm infestation is alarmingly high in the rural areas of this county. It shows too that the more compactly settled and more prosperous coastal areas have a serious problem in other intestinal parasites. While it may be remarked that these parasites are less pathogenic, it should be remembered that any insanitary condition that transmits one of these infestations might become the source of a serious, filth-borne epidemic. These statistics illustrate that the work of the health educator and that of the sanitarian have only begun in Harrison County. There is a crying need for new methods to supplement the classical approach to the intestinal parasite problem.

SUMMARY

1. An intestinal parasite program was instituted in Harrison County, Mississippi, during the winter months of 1945-46. The work was done by a Civilian Public Service Unit and consisted of case-finding through school surveys, treatment, privy installation, health education in the homes and in the schools.

2. In the rural schools, 936 children were tested by the zinc sulphate flotation, centrifugal technic. Forty-six and four-tenths per cent (46.4%) were found to have hookworm, and an additional 4% had some other intestinal parasites. Of 1005 homes visited in the

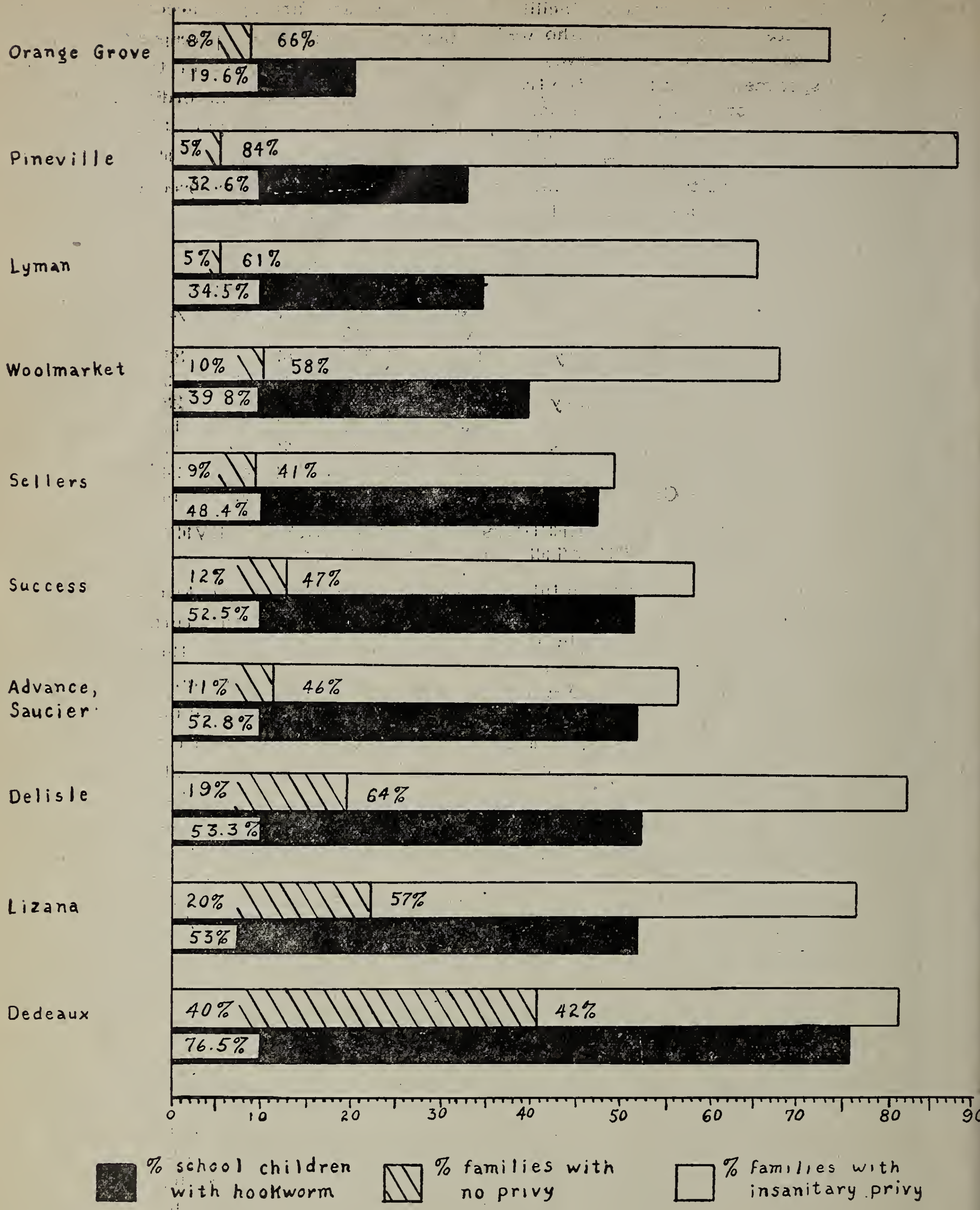


CHART IX. GRAPH SHOWING INCIDENCE OF HOOKWORM, AND HOME SANITATION.

same areas, 58% had insanitary privies, and 11% had no privy.

3. In the coastal-urban schools, 1012 children were tested. The rate of infestation was 14.1% for hookworm and 27.4% for other intestinal parasites. A limited survey of 545 homes in the same areas revealed that 62% had insanitary privies and 10% had none.

4. In the Negro schools, 152 children were tested. Of these, 6.6% had hookworm, and

10.5% had other intestinal parasites. A sanitation survey of 152 homes in the same districts showed that 85% of the homes were without sanitary privies and 5% had none.

5. Five hundred eighty-seven (587) persons were given hookworm treatment. Two hundred sixteen (216) of these submitted stool specimens a month after treatment. Almost half (47%) were cured by the first treatment. The others were given second treatments.

6. Four hundred eighty (480) privies were installed in homes, and a scout camp and 8 public schools had sanitary privies or sewage systems installed.

7. Five thousand six hundred forty-one (5641) persons were spoken to, and 3061 homes were visited in the health education program and sanitary survey.

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PLEASE

Dr. G. S. Bryan, a beloved member of the medical profession, urges us to assist him in compiling a pictorial history of Mississippi medicine. Send the necessary data to him immediately. Dr. Bryan has contributed much toward organized medicine. This permanent record will be very serviceable. This is a small service you can do. Do it now!

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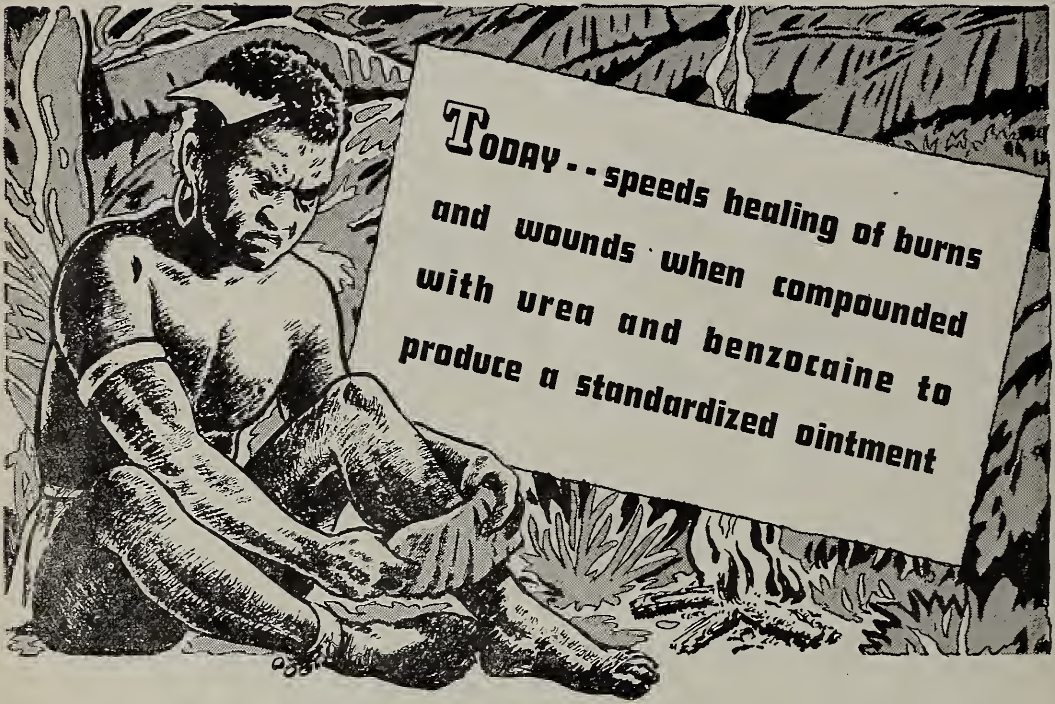
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Diabetes Mellitus, the Neglected Disease*

LEON S. SMELO, M.D.
Seale Harris Clinic
Birmingham, Ala.

A QUARTER CENTURY has now passed since the discovery of insulin. It would be a most fitting tribute to the memory of the great Banting if today with truth it could be said that diabetes everywhere is well treated and that all diabetics live out their full life span without the multitude of distressing complications the disease exacts — cataracts, retinal hemorrhages, coronary heart disease, retinal tract infections, cutaneous furuncles and carbuncles, neuritis, and vascular lesions of the lower extremities. The miracle of insulin wrought by Banting, advances made by many research workers in the field of nutrition, and the development by a host of skilled clinicians of "know-how" in the management of diabetic patients, together have brought this goal within our reach, but we who practice medicine today have not attained it.

Needlessly, diabetics still die in coma and in ever increasing number develop the degenerative complications of the disease. Neglect of insulin, neglect of diet, neglect to maintain full control are responsible for these casualties of diabetes, which might have been prevented. In these times we hear much of bold and sweeping plans to find the cause of, to forestall, and to eradicate disease—the anti-tuberculosis drive, the National Foundation for Poliomyelitis, a nation-wide venereal disease program, a congressional appropriation of one hundred million dollars for cancer control; these are evidences of the surging effort to better the nation's standard of health. Diabetes alone is unpublicized and unprovided for—it is the forgotten disease.

It seems to be forgotten that the mortality rate from diabetes is climbing steadily; that between 1900 and 1940 diabetes advanced from twenty-seventh to ninth place as a cause of death in the registration area of the United States, and that by 1950 it may surpass tuberculosis and premature births which lie immediately above it. Dr. Elliott Joslin estimates that at least three-fourths of a million persons today have diabetes in this country. In predominant measure because of insulin the diabetic's duration of life has increased many years, but even outstanding clinics report a life expectancy much short of normal. Thus Joslin states that a diabetic child of ten has a life expectancy of forty years in contrast to the normal child's fifty-seven years, while at the age of sixty-five years the diabetic expectancy is eight years as compared to the normal twelve years. Further, it should be pointed out that these figures deal only with the diabetic's life span; they do not present the disabilities suffered during this span of years because of degenerative complications. Indeed, the startling and sombre fact is that all too frequently insulin has kept the diabetic alive so that eventually he dies with retinitis, neuritis or some vascular disturbance. Joslin has recently surveyed a group of twenty-year-diabetic children under his care; 70 per cent had complications involving the arteries, heart, kidneys or eyes.

At the quarter century mark of the insulin era, it is fitting that we pause to take stock. While much progress has been made, we have failed to attain fully the potentiality inherent in Banting's great discovery—a life of normal length and normal health for every diabetic. Particularly, we physicians who devote ourselves to the treatment of diabetes must overcome our negligences of the past. We must make the public conscious of the symptoms of diabetes in order that early diagnosis becomes the rule rather than the exception. We must make physicians generally more keenly aware of the disease so that every examination of a new patient includes a post-prandial urinalysis for sugar, or better, a blood sugar determination. We must emphasize that while partial control of diabetes may preserve life, complete control is requisite for the prevention of degenerative complications. Finally, we must promote and expand research into the two major unsolved problems, the cause of the disease and the etiology of the degenerative arteriosclerotic lesions.

Insulin has permitted the successful therapy of diabetes but further research into its cause is fundamental to the next great advance—its cure. Ever since Mirkowski and von Mering in 1889 produced the symptomatology of diabetes by the performance of pancreatectomy in dogs, clinical thought has correlated the disease in man with this organ. Banting and Best's traction of the hormone in 1921 from the islets of Langerhans localized the morbid process and estimated firmly the concept that diabetes resulted from insufficiency of insular secretion. Developments during the past decade or two however, have brought into serious question the view that human diabetes necessarily means pancreatic islet insufficiency.

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It is well established that experimental diabetes does not follow in animals such as the dog or cat unless 80 or 90 per cent of the pancreas is removed and Joslin has stated that "to prove trauma causes diabetes (in man) one must show that the pancreas is gravely injured; in fact, at least four-fifths destroyed, probably nine-tenths." Yet Warren in a pathologic study of islet lesions in 271 diabetics found that 25.5 per cent showed no morphologic abnormality and only 24 per cent exhibited considerable damage.

Further, if insulin insufficiency be the cause of human diabetes, then one would expect the insulin content of the pancreas in diabetic subjects to be much less than in non-diabetics. Scott and Fisher found an average insulin content of 1.7 units per gram of pancreas in fourteen normal individuals accidentally killed. The average concentration for eighteen diabetics dying of various diseases, which of themselves might reduce the pancreatic insulin, was 0.4 units per gram, but one severe diabetic's pancreas contained 1.9 units per gram.

Recent reports on the insulin dosage of patients subjected to complete pancreatectomy deal further blows to the prancreatic insufficiency theory. Advances in surgical technique have allowed the successful performance of this operation in several clinics; in a half dozen such patients the insulin requirement has ranged between thirty and fifty units daily on a glucose intake of 150 to 200 grams. In contrast to these depancreatized diabetics, patients with the spontaneous form of the disease and entirely free of complications often need 100 or more units of insulin daily, and case reports of so-called insulin resistance with requirements of one hundred or more units per day are more and more frequently entering the literature. During the past two years the writer has treated a young diabetic girl whose insulin dosage has varied from 300 to 5,000 units per day and predominantly has been above 2,000 units.

Finally, the outstanding Argentine physiologist, Houssay, has demonstrated that hypophysectomy markedly ameliorates experimental pancreatic diabetes and C. N. H. Long of Yale has shown that adrenalectomy exerts a similar effect. These hypophysectomized-depancreatized or adrenalectomized-depancreatized animals are extremely sensitive to insulin, die of hypoglycemia when fasted, but remain diabetic in the sense that the ability normally to metabolize carbohydrate is not restored. Thus persistence of the state of experimental pancreatic diabetes necessitates not only pancreatectomy but also continued functioning of the anterior pituitary and adrenal cortex, which plainly must exert an extra-pancreatic influence. Clinical counterparts to these experimental observations have been noted in human cases which exhibited marked diabetic improvement upon the development of destructive pituitary lesions or Addison's disease. Contrariwise, Young of England has employed a progressively graded series of injections of anterior pituitary extract into dogs to produce first hyperglycemia and later permanent diabetes, the latter resulting from hydropic degeneration and then destruction of the islets of Langerhans. Paradoxically, the same pituitary extract which is diabetogenic in dogs brings about hyperplasia and increased insulin output of the islets in rats and has a hypoglycemic action in human organic hyperinsulinism. Conn of Michigan believes such extracts contain two principles; one which is hyperglycemic and acts on the extra-pancreatic tissues and the other which is insulinotrophic and stimulates the beta cells of the islets of Langerhans.

It is possible to understand more clearly these research studies when one has sharply in mind the mechanism of the normal physiologic regulation of the blood sugar level and the biochemical effects exerted by insulin, anterior pituitary and adrenal cortical hormones. The normal blood sugar content represents a dynamic equilibrium between the rate the liver (which is the sole source of blood sugar) secretes glucose from the blood for oxidation, storage as glycogen, and conversion to fat. Regardless of food intake, the normal animal consumes at least 0.25 grams per kilo of glucose per hour, which means a minimum of 360 grams per twenty-four hours for the average adult. During fasting the hepatic glycogen stores could support such a consumption for but a day or two; the fact that prolonged fasting does not eventuate in hypoglycemia is evidence of the body's ability to mobilize its protein and fat stores and of the liver's gluconeogenetic capacity to convert protein and fat precursors into sugar so as to maintain a sufficient output of glucose to meet the body needs and prevent hypoglycemia.

The adrenal anterior and cortical pituitary hormones are essential for hepatic gluconeogenesis and mobilization of the body's protein and fat stores. For this reason hypophysectomy and adrenalectomy ameliorate diabetes and render animals so operated subject to fasting hypoglycemia while conversely excess of these hormones results in hyperglycemia by virtue of overproduction of sugar by the liver from protein and fat. Insulin induces hypoglycemia by accelerating the removal of glucose from the blood for storage of glycogen and oxidation in the muscles and by retarding the hepatic secretion of glucose into the blood through inhibiting the mobilization of protein and the conversion of amino acids into glucose in the liver. In summary, pancreatectomy decreases the utilization of glucose but does not stimulate its excess production from non-carbohydrate sources.

It is evident that the cause and pathogenesis of human diabetes are still unknown. No longer tenable is the view that the diabetic is doomed to a lifetime of diabetes because at the root of his disease is insufficiency of the islets which are irreparably damaged or destroyed. The very fact that the etiology of diabetes continues to be unsolved carries the prospect that discovery of the cause may also mean the cure. In terms of recent progress the future is bright with hope for the diabetic. Research brought insulin to treat and safeguard all diabetics; research will bring the cure to many whom insulin has preserved. Vigorous, expanding research is of vital concern to every diabetic. In view of the advances in diabetes already made and particularly the magnificent accomplishments of the past quarter century, from the standpoint of national health, if funds are limited, it would seem wise first to expend one hundred million dollars upon diabetes, with effective therapy available and cure within sight, and later to turn to cancer, which poses a problem so stupendous as to be immeasurable.

Whatever extrapancreatic factors may be involved in diabetes, in anticipation of their future regulation or eradication, it is our present obligation to preserve intact or as nearly so as possible, the islets of Langerhans whose essential production of insulin should not be minimized. At the dawn of the insulin era Frederick Allen demonstrated upon partially depancreatized dogs that hyperglycemia brought about by high carbohydrate feedings resulted in hydropic degeneration of the islet cells and eventually in diabetes, while high fat feedings or starvation protected the islets and prevented diabetes. More recently, in the pituitary induced diabetes of partially depancreatized cats, Lukens has entirely relieved the disease within the initial three months of its production by strict control with diet and insulin, while the diabetes became permanently established if unchecked hyperglycemia was permitted to persist. Lukens emphasizes that avoidance of hyperglycemia is the key to the prevention of further injury to and the promotion of recovery of the beta cells. From the clinical standpoint, we may best safeguard the future of our patients by the maintenance of full diabetic control. Under such régimes, it has been our experience that patients exhibit the greatest recovery of carbohydrate tolerance as measured by reduction in insulin requirement. So many factors affect insulin requirement that it would be fallacious to conclude reduction in dosage under such circumstances necessarily meant restoration of islet function, but certainly this is a reasonable explanation.

Furthermore, full diabetic control constitutes the patient's best defense against degenerative sequelae. The etiology of the premature and excessive anteriosclerosis which underlies the degenerative complications of diabetes remains as the second major unsolved problems. With the basic cause of these complications unknown and their occurrence so haphazardly distributed among diabetics, many patients and physicians have complacently accepted the view that glycosuria and poor control are of little consequence.

Indeed, Mirsky, an outstanding research man, has written "that it makes little difference how the diabetic is treated; if he lives long enough he will develop one or another form of vascular disease." In a broad sense, this statement is true of every individual, diabetic or not, inasmuch as arteriosclerosis is one of the inevitable processes of degeneration in senescence.

In the narrow sense that the premature and excessive vascular disease of diabetes is independent of the degree of control, this statement is contradicted by the experience of every clinician with an extensive diabetic practice. Without exception to the writer's knowledge, these physicians encounter few sclerotic complications among well-controlled patients and treat the preponderance of degenerative lesions among diabetics whose level of control has been poor through the years. Boyd's careful study upon sixty-nine juvenile diabetics, whereby the factor of age is excluded, clearly revealed that "adequately controlled diabetes does not predispose the child to degenerative diseases; and in the children who have shown such abnormalities, they have shown concomitantly prolonged glycosuria with accompanying perversion of their normal physiological state." It is undoubtedly true that we are ignorant of the cause of the vascular changes in diabetes; it may be true that these changes are concomitants of rather than results of the disturbance in carbohydrate metabolism, but at the present time the weight of evidence firmly supports the concept that restoration of normal physiology through persistent full diabetic control offers the best available prophylaxis against degenerative sequelae.

In our judgment, neglect to attain and maintain full diabetic control jeopardizes the patient's future—it lessens his likelihood of future cure and enhances his likelihood of a disastrous complication. We who treat the patient should strive for complete regulation of his disease. Let any compromise with this standard be made not by the physician but by the patient, and let the patient be forwarned of the risk entailed. Since full diabetic control is of such significance, let us define clearly the term and discuss the manner of its systematic realization in everyday practice. By full diabetic control, we mean,

(1) The patient partakes a nutritionally adequate diet calorically adjusted to restore normal weight.
(2) The fasting blood sugar is consistently within the normal range of 80-120 mgs. per 100 cc.
(3) The peak post-prandial blood sugar value one hour p.c. does not exceed 180 mgs. per 100 cc. and the urine throughout the twenty-four hours is free of sugar and of ketone bodies.
(4) Insulin or hypoglycemic reactions are either absent or of infrequent occurrence.

The basic manifestation of diabetes is hyperglycemia and at the root of hyperglycemia is insulin deficiency, whether this be absolute because of secretory failure by the islets of Langerhans or relative because of non-responsiveness of the tissues to insulin action, neutralization of the insulin by the effects of the contrainsulin hormones from the pituitary or adrenal. As we have already pointed out, the fundamental cause of this insulin deficiency is as yet unknown.

It is convenient to classify diabetes into three grades of severity in terms of the extent of the shift of the blood sugar equilibrium in the direction of hyperglycemia and presumably of the deficiency of insulin:

(1) **Mild** — The fasting blood sugar is normal but there is post-prandial hyperglycemia.
(2) **Moderate** — Both the fasting and post-prandial blood sugar values are elevated, but the blood sugar content falls during the overnight fasting period.
(3) **Severe** — Not only are the fasting and post-prandial blood sugar values abnormally high but the content of blood sugar progressively rises during fasting in consequence of the excessive hepatic secretion of sugar by glycogenolysis by over-production from protein and fat (gluconeogenesis).

We may consider the hyperglycemia of mild and moderate diabetes to be exogenous in origin and to result from failure to store or oxidize with sufficient rapidity the flood of carbohydrate entering the blood stream after each meal. In severe diabetes the hyperglycemia has both this exogenous source and an endogenous component arising from the liver's breakdown of glycogen stores and conversion of body protein and fat into glucose. It is this latter process which is responsible for the negative nitrogen balance and ketosis of severe diabetes for the hepatic production of glucose and ketone bodies go hand in hand. The deficiency of insulin is so great as to be inadequate not only to promote the storage and oxidation of exogenous carbohydrate but also to check the endogenous conversion of body protein and fat stores into sugar and ketone bodies.

The character of severe diabetes may be evaluated by controlling post-prandial hyperglycemia with pre-meal injections of rapidly acting standard insulin so that a normal blood sugar of approximately 120 mgs. per 100 cc. is obtained at approximately 12:00 midnight (six to eight hours after the last standard insulin injection when its effect is totally, or almost so, completed), and then comparing this blood sugar reading with one secured in the fasting state about 7:00 A.M. of the following morning. The extent of the increase in blood sugar between 12:00 midnight and 7:00 A.M. constitutes a rough measure of the severity of the endogenous glucose production which characterizes severe diabetes. Such "night rises" in blood sugar vary in magnitude from 50 to 350 mgs. per 100 cc. and are invariably accompanied by ketosis of some degree.

In treatment of the patient, the severity of the diabetes determines only whether insulin is to be administered and the type or types to be employed, but does not affect the dietary prescription which is based solely on weight and activity and is planned to restore normal weight. The total daily caloric intake is subject to future adjustment as determined by the weight response but initially for moderate activity we prescribe thirty calories per kilo of standard weight if the patient's weight is about normal, twenty to twenty-five calories if overweight and thirty-five to forty-five if underweight. We have found 100 to 240 grams of carbohydrate per day permit an adequate bulk of food to be conveniently obtained and tend to limit the necessity for and dosage of insulin injections required by higher carbohydrate allotments. One gram per kilo of standard weight fulfills the protein requirement. After calculating the calories furnished from carbohydrate and protein, we prescribe sufficient fat to make up the calculated caloric value of the diet.

Assuming that the patient is not in clearcut acidosis or coma, after determination of the diet, one must decide whether to institute insulin therapy at once or to defer this decision until further evaluation of the patient's diabetic status. Immediate insulin administration is called for under these circumstances:

(1) The presence of a positive test for ketones with the ferric chloride reagent, which is much less sensitive than the nitroprusside reagent and thereby indicates a level of ketone accumulation urgently threatening severe acidosis and coma.

(2) The existence of a major infectious complication since establishment of diabetic control as quickly as possible is desirable in order to enhance the patient's recuperative powers and to forestall a rapid shift toward acidosis and coma.

(3) Juvenile diabetes, for almost invariably such patients require insulin.

(4) A fasting blood sugar in excess of 300 mgs. per 100 cc., because in our experience these patients ultimately need insulin, and delay in administration consequently is pointless.

In order to evaluate the effect of therapy during the course of standardization, it is most helpful to obtain a daily fasting blood sugar and to perform qualitative analyses upon four fractional urine specimens covering the periods 7:00-11:00 A.M., 11:00-4:00 P.M., 4:00 P.M.-9:00 P.M. and 9:00 P.M.-7:00 A.M. so as to determine the glycosuria after each meal and during the overnight fasting period.

If the patient's diabetes be mild, the daily fasting blood sugars will be normal and adherence to the diet for a few days will overcome glycosuria and establish diabetic control. To eliminate the possibility of a high renal threshold, a blood sugar is drawn two hours after supper. If this report is above 160 mgs. per 100 cc. and remains so after further trial with dietary adherence for several additional days, then insulin administration is necessary.

The presence of a consistently elevated fasting blood sugar and of a heavier glycosuria in the 7:00-11:00, 11:00-4:00 and 4:00-9:00 urine specimens than in the overnight 9:00-7:00 specimen indicates a diabetes of moderate grade. Since the fundamental difficulty is insufficient insulin to prevent hyperglycemia after meals, the type of insulin called for should be rapid in action and therefore regular or crystalline insulin is given before meals in order to overcome post-prandial hyperglycemia. At the end of each day we appraise the fractional urinalyses and adjust the insulin dosages for the next day until we have prescribed sufficient insulin before each meal to eliminate glycosuria after the meal. By this system of insulin administration, the presence of glycosuria after a meal does not call for an increased dose before the next meal but rather means a greater dose before that same meal the following day. The objective is to forestall glycosuria, not to reduce it after its occurrence. It will be noted that as the glycosuria is overcome, the fasting blood sugar level will become normal.

Usually the establishment of freedom from glycosuria is followed by rapid recovery of carbohydrate tolerance, so that insulin administration at noon time can be eliminated in every patient, the supper injection in many patients and, in the course of time with maintenance of control, all injections in perhaps a third of mild or moderate diabetics. It is the custom of many authorities to utilize a single daily injection of protamine insulin in these diabetic categories but we do not adopt this procedure at the outset because full diabetic control is often not obtained, noctural hypoglycemia occurs not seldom, and in the absence of complete diabetic regulation the expected improvement in tolerance is lost. If, however, reduction of the insulin dosage to the greatest extent possible consistent with full diabetic control still necessitates, after several months, two injections per day, then we resort to a trial with protamine insulin or a 2:1 or 3:1 regular insulin—protamine insulin mixture and frequently the results are quite satisfactory.

During the course of stabilization, failure of the fasting blood sugar to return to normal or the presence of heaviest glycosuria in the overnight specimen establishes a patient with diabetes of severe degree. About 90 per cent of children and 10 to 20 per cent of adults fall into this class. Standard insulin with its six- to eight-hour duration of action is too short-lived to check the characteristic "night rise" in blood sugar unless administered between 12:00 midnight and 3:00 A.M., but the prolonged effect of protamine insulin injected at a convenient hour in the day is ideally suited for the purposes. Consequently the dose of protamine insulin is adjusted until a normal fasting blood sugar is obtained. Once this objective is reached, regardless of glycosuria, the protamine dosage cannot be further increased or severe reactions during the night will be produced. In actual fact, heavy post-prandial glycosuria with fasting normo-glycemia is the usual outcome of protamine insulin therapy of severe diabetes; essentially it converts severe diabetes into mild diabetes. We then complete the standardization of the patient by employing standard insulin as above described for the moderate diabetic. Thus the severe diabetic requires the two types of insulin to attain full control; protamine insulin to restrain his endogenous sugar and ketone production and standard insulin to overcome his exogenous post-prandial hyperglycemia.

In recent years we have sought to eliminate the necessity for the multiple insulin injections by preparing mixtures of the two types of insulin in the proportion of two or three parts of regular to one part of protamine insulin, but in our hands we have realized this goal in less than half the cases tried. The major difficulty has been late afternoon hypoglycemia despite glycosuria after breakfast and after supper; globin insulin has the identical defect. The separate injection of the two insulin types, while less convenient, is much more flexible for adjustment of dosage in the event of either reactions or complicating infections.

Concomitant with the diabetic standardization and of equal importance is the patient's education. He is taught food values, the calculation and measurement of the diet, the performance of urinalysis for sugar, the technic of insulin injection, the recognition and treatment of insulin reactions, the adjustment of insulin dosage for insulin reactions or glycosuria, and the necessity for regular check-ups by his physician in order to maintain full diabetic control and abundant health throughout the remainder of his life.

In conclusion, we have discussed what lies ahead in diabetes and have sought to indicate how we who treat the disease may bring to our patients the full measure of health which Banting's and Best's great discovery and other medical advances have rendered possible. As we enter upon the second quarter century of the insulin era, let us humbly dedicate ourselves to the mission of a life of normal longevity and health for every diabetic. When this goal is attained, then we shall have discharged our debt to Banting and Best and removed diabetes mellitus from the category of neglected diseases.

A Consideration of the Toxemias of Late Pregnancy and Nutrition*

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THE TERM "toxemia of pregnancy" in this discussion is intended to include only pre-eclampsia and eclampsia, because renal disease of pregnancy and essential hypertension are other entities.

Definition: A disease of pregnancy probably associated with nutritional deficiencies, and characterized by distinct pathological lesions and a syndrome of symptoms, the most important of which are convulsions.

Varieties: We speak of pre-eclampsia in the early stages before convulsions occur and eclampsia in the presence of convulsions.

Etiology: Not withstanding the many studies as to the cause of this disease, it remains unknown today. In the past, one theory has been that these two conditions are one form of toxemia, causing or caused by perversions in metabolism and that a toxin circulating in the blood stream upsets the water balance, causes directly or indirectly and degenerative changes in the kidneys, and that convulsions occur, due to direct toxic action on the cerebral cortex, pressure caused by edema, or angiospasm affecting the brain.

We do not know the cause of eclampsia. On the other hand, observation and research have added sufficient information to change considerably our conception of the cause of this condition. It was first noted by the ophthalmologists that the small blood vessels in the retina were constricted in the presence of pre-eclampsia. It had long been known that the urine volume was decreased, and the degree corresponded to the severity of the disease. There were those who recognized that the decrease in urine volume was also a matter of angiospasm. It became apparent that this constriction of the arterioles was generalized, not only in the eye and kidney, but throughout the body and accounted for the rise in blood pressure. It has also been noted that the duration of the hypertension of pre-eclampsia was more important than the severity of the disease—that is, that the patient who had a moderately elevated blood pressure which was existent for several weeks would suffer permanent kidney damage even though there had been no convulsions; whereas, in rapidly developing toxemia of severe degree lasting only a few days and attended with convulsions, there might be no permanent kidney damage. These clinical observations were supported by experimental evidence. Many believe that the placenta produced a pressor substance in pre-eclampsia, but it could be reasoned just as well that a pressor substance is always present during pregnancy and that a vasorelaxor ordinarily present in normal pregnancies is absent in pre-eclampsia. It may be that constriction of the small blood vessels alters the vessel wall sufficiently to aid in the production of edema.

Another factor must be considered, at least in certain regions. We have found that the nutritional factor is highly important, and there must be sufficient concentration of the serum proteins in the blood stream to prevent fluid from becoming extravascular.

Pathology: Liver—Necrosis in the periphery of the lobule extending toward the center usually immediately surrounding the portal vein. Hemorrhages occur in the lobules and are also frequently found beneath the capsule of the liver. A yellowish appearance is due to fatty degeneration.

Kidney—No constant changes except that the glomeruli are usually empty.

Heart—Fatty degeneration of the myocardium.

Brain—Edema and hemorrhagic foci.

Skin—Edema, jaundice, occasionally subcutaneous hemorrhages.

The pathologic changes which have been mentioned are probably all secondary, and the primary change is in the placenta. There are those who are able to detect the eclamptic placenta by histologic changes.

Symptoms: Edema, although slight, is often seen in the latter part of pregnancy due to interference in circulation. The presence of any edema should suggest toxemia of pregnancy. Persistent headache is a constant symptom, accompanied by spots before the eyes and twitching of the face and pain in the epigastrium, especially before the onset of convulsions. Hemorrhagic retinitis is not constant, but frequent.

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*Read before the Section on Medicine at the Mississippi State Medical Association, May 15, 1946.

Urine: Albumin is found in varying amounts. The amount of albumin is not always indicative of the severity of the toxemia. The quantity of urine is usually decreased. The appearance of casts usually indicates that the disease is progressing. Blood may be found in the urine in severe cases.

Blood Pressure: A rise in blood pressure is a significant sign. Blood pressure readings above 135 mm. suggest the presence of toxemia. The blood pressure may rise, however, to as much as 250 mm. or higher. Convulsions may occur either antepartum, intra partum, or postpartum. It is hardly necessary here to describe the typical convulsion.

Diagnosis: The diagnosis is established from the signs and symptoms as listed above and in the presence of convulsions must be differentiated principally from epilepsy, hysteria, uremia, and all forms of coma.

We are at present examining the case records on a large series of eclamptic patients. This is, as yet, uncompleted, but in comparing the same number of eclamptic patients in other countries and races which have come under my observation with a similar group of eclamptic patients in Memphis, some interesting, although negative, results are obtained. The fact that one group comes from a cold, dry climate and the other from a moist, warm climate and that the two groups lie on opposite sides of the world made no difference. Race or color was not significant. The incidence as to parity was almost identical. What seemed to be important was that in both groups the disease occurred among the underprivileged or indigent who could be expected to have nutritional deficiencies.

In the presence of marked deficiency of plasma protein, we have found that the giving of plasma to patients having postpartum eclamptic convulsions was a lifesaving measure. This stimulated a study of the red blood cell count, hemoglobin, and total plasma proteins as found in our material at the John Gaston Hospital. The study in pregnancy is as follows:

PREGNANT NEGRO WOMEN

200 Unselected Cases

	R. B. C.	Grams Hemoglobin	Grams Plasma Protein
Highest	5,580,000	14.5	8.6
Average	4,140,000	11.2	6.83
Lowest	2,500,000	8.5	5.5

Twenty-three cases, or 11.5 per cent were toxemias.

Highest	5,370,000	14.5	8.6
Average	4,310,000	11.5	7.13
Lowest	3,490,000	9.2	6.0

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PREGNANT WHITE WOMEN

200 Unselected Cases

	R. B. C.	Grams Hemoglobin	Grams Plasma Protein
Highest	5,500,000	14.5	7.6
Average	4,080,000	11.6	6.5
Lowest	2,860,000	7.8	5.5

Four cases, or 4 per cent, were toxemias.

Highest	4,300,000	12.4	7.4
Average	3,950,000	11.3	6.8
Lowest	3,270,000	10.5	6.4

These findings do not support the contention that the toxemias of pregnancy are associated with hypoproteinemia. Still, we believe that nutrition is involved in the causation of this condition, and certainly if the total protein levels are markedly reduced in the presence of eclampsia, the patient is benefited by energetic treatment to bring the protein level back to normal range. Whether it is one or a combination of the proteins, minerals, and vitamins which primarily are concerned in the protection of the liver whereby it may maintain its function of detoxification remains to be determined. In the meantime it is wise to prescribe a proper diet containing sufficient protein, calcium, and the vitamins, especially vitamin B complex.

DISCUSSION

DR. ARRINGTON (Meridian)—How does one eliminate the excess toxins during pregnancy?

DR. WHITACRE (closing)—In answer to Doctor Arrington's question as to the elimination of toxins in the eclamptic state, we can say that although the etiologic factor of eclampsia is still unknown, one of the most important results is angiospasm. This accounts for the rise, gradual or rapid, of the blood pressure and the corresponding suppression of urine. It might even account for the onset of convulsions. Regardless of the intent, the results of all forms of treatment have been to relieve this condition. Drugs, such as morphine and the barbiturates given in sufficient amounts, finally caused some relaxation of angiospasm. Veratrum viride attains the same results by direct action upon the arterioles. If the patient excretes large amounts of urine, she survives, and if the urinary suppression continues, she does not.

Elimination by sweating or purging has been unsuccessful, and our aim is to increase elimination through the kidneys by relieving angiospasm. This can be done by means of regional nerve blockings as well as by the use of a variety of drugs. The use of hypertonic intravenous glucose is effective when associated with the relief of angiospasm.

Evisceration Following the Use of Cotton

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CURRENT LITERATURE abounds in which the merits of cotton as a suture material are set forth. Indeed, cotton is undoubtedly the best material we have from all scientific investigation. Sufficient experience with it is all that is needed to gain new advocates to its cause. It has been my choice for the past five years; rarely have I used anything other than cotton in closing the abodmen or for suturing within the abdomen.

However, in our enthusiasm over the superiority of cotton over the absorbable type of suture material, let us not go to extremes and declare cotton the ideal material, devoid of any fault, and preventive of postoperative complications including wound disruption. It must not be falsely concluded that cotton rules out wound disruption entirely. To emphasize this point is the purpose of this study.

Cotton as a suture material has been studied experimentally by Meade, with the resulting conclusion that tissue union occurs sooner and is firmer in those wounds in which nonabsorbable materials such as cotton were used.

However, suture material is not the only factor in wound disruption. The following can be signaled out as influential in wound healing:

1) Malignant diseases were a factor in 25 per cent of the cases reported by Jenkins.

2) Hypoproteinemia has been demonstrated by Clark to delay healing by prolonging the lag period. That the rate of healing is influenced by serum protein has been shown by Harvey and Howes.

3) Vitamin deficiency inhibits wound healing, especially vitamin C, which is definitely related to the tensile strength of wounds.

4) Contamination by organisms and débris, whether due to rough handling of the tissue or to charring by surgical units, all tend to delay healing.

5) Since the distribution of blood and nerve supply has much to do with healing, incisions which cut across blood vessels and nerve fibers promiscuously inhibit healing.

6) Infection, whether remote or localized to the wound, interferes with the proliferation of fibroblasts.

7) Constitutional diseases, such as nephritis, diabetes, syphilis, etc., delay healing because of the abnormality of metabolism in persons having such diseases.

That age is unimportant as a factor in wound healing has been pointed out by Maes, Boyce, D'Ingianni, and others, who show that the number of cases of evisceration is proportionately equal for all age groups.

To prove that our knowledge concerning wound disruption is far from complete, the following case is reported: A well-nourished patient was fortified preoperatively with vitamins intramuscularly, and with all the above listed factors accounted for and ruled out;

disruption did occur, however, although the wound was closed with cotton. It can be concluded that there are still other factors which inhibit fibrous tissue proliferation. At present there are only conjectures, for example: Whenever tissue is cut the repair process is called immediately into play, and within twenty-four hours there is microscopic evidence of repair. Is it possible that at certain times the centers of repair fail to be disturbed, whether by chemical or direct stimulation? Or can the implanted material be sufficiently irritating as to neutralize the elements of proliferation? In this latter case the tendency of the suture material to be rid of the host triumphs over the process of wound healing. And how can one account for the cases of wounds that disrupt, and then, after reapproximation, show evidence of healing by the fourth day without apparent change in the host?

My interest in wound disruption was aroused when a patient who had a cholecystectomy eviscerated early after operation. Then I began to examine the records of all the cases of wound disruption that accurred at Charity Hospital in New Orleans during the ten-year period, 1935-1945. These records revealed that there were seven cases of evisceration following the use of cotton, as against eight cases following the use of chromic. However, the fact that less than one-third of the staff members used cotton alters the picture somewhat.

CASE REPORTS

Case I: On 6-30-43 a colored male, aged thirty-seven, had an appendectomy. He was in good health, and a normal appendix was removed under cyclopropane and ether through a right rectus muscle splitting incision. The abdomen was closed with cotton. His postoperative course was normal until the eighth day, when his sutures were removed and he eviscerated.

Case II: On 6-13-44 a colored female in good health had an appendectomy through right rectus muscle splitting incision. A normal appendix was removed under cyclopropane and ether, and the abdomen was closed with cotton. On the fifth day the sutures were removed and the gut eviscerated.

Case III: On 4-14-44 a white male in extremely poor health was explored through right rectus muscle splitting incision; a ruptured stomach was found. Prontocain was the anesthesia and cotton was the suture material. On the tenth day evisceration took place.

Case IV: On 4-1-44 a white male, aged sixty-three, had his prostate removed under spinal anesthesia through a middle incision. The abdomen was closed with cotton. On the ninth day the sutures were removed and he eviscerated.

Case V: On 11-8-43 a colored female, aged thirty-two, had a supravaginal hysterectomy under cyclopropane and ether through a midline incision and the abdomen was closed with cotton. She eviscerated on the eighth day when the sutures were removed.

Case VI: On 5-25-42 a colored female, aged twenty-three, in good health, had an appendectomy. When the sutures were removed on the seventh day she eviscerated.

Case VII: On 10-21-42 a white male in poor health had an exploratory through a midline incision for intestinal obstruction under local anesthesia of novacain. The abdomen was closed with cotton. On the tenth day he eviscerated when the sutures were removed.

In reviewing the cases of wound disruption following surgery which occurred at Charity Hospital in the given ten-year period, it was found that cotton has only been used in the last three years: 1942, 1943, and 1944. In these years the above cases of evisceration following the use of cotton were found. Besides, there were eight cases of evisceration when chromic was used, and one case when silk was the suture material. Thus cotton accounted for 43 per cent of the cases of disruption, although it was selected for less than a third of the cases at the institution.

The age grouping was distributed as follows: one in the second decade, two in the third, two in the fourth, and three in the seventh.

There were three females and four males. Three were operated upon for appendectomy, one for ruptured viscera, one for intestinal obstruction, one for prostatic resection, and one for uterine fibroid. The general health was apparently good in all but two cases.

The anesthesia of choice in the original surgery was ether in five cases, and spinal in two. The operating time averaged sixty-six minutes for the appendectomies, 235 minutes in ruptured viscera, 90 minutes in the prostatic resection, and 120 minutes in the case of intestinal obstruction.

All of the patients were afebrile until the fourth day, except one who ran a septic course. About the fifth day there was a rise in temperature, averaging 1.2 degrees. In only one case was there reported a soiling of the dressing.

Evisceration occurred on the day the sutures were removed, which was the fifth to the eighth day for appendectomies, and the eighth day for all other surgery. The viscera were found herniating in all cases accompanied by the omentum. The secondary closure was done with cotton in one case and with silver wire in the others. These secondary closures were done under ether anesthesia in three cases, and under spinal infiltration in one case. The average time spent in the hospital after the evisceration occurred was twenty-six days.

In conclusion, histological studies demonstrate that cotton promotes wound healing. But its use does not entirely eliminate disruption, for there are many factors besides suture material which play a part in wound healing.

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A Postwar Program for the Control of Venereal Disease*

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As we think about the future there is growing concern about the problems which the end of the world's most terrible war has thrust upon us. We had hoped we would be able to call this a time of peace and it comes to many of us as something of a jolt that although hostilities have ceased we still have a long way to go before arriving at the peace toward which so many have worked and sacrificed. There is much at stake for everyone in seeing that this goal is finally realized and weary though many may be from the impact of recent events, now is no time to permit a lag in our efforts to restore some equilibrium and order.

Every war's end has brought a tumult of problems and we have been alerted as to many of the things we might expect based on a review of history. We can profit if we will from many of the mistakes of our forebears; also we can put to good use much that they developed which has proved of value. Now is the time to take stock. We face a tremendous job which will require the full utilization of present-day knowledge and the resources and leadership of all groups.

The control of venereal diseases presents a very special challenge at this time. In spite of the tremendous strides in therapy we are faced with an increase in incidence of these diseases which threatens to affect the welfare and stability of many communities and families the nation over. We must take whatever measures are possible to curb this situation or else other worthwhile activities may count for naught.

We have been warned[1] that if communities do not take action fast, the dismaying record which this country made after World War I will be repeated. "After the armistice, the world suffered a widespread epidemic of VD. Soldiers came home experiencing psychological reactions to battle tension; girls and women were still suffering from wartime hysteria and confusion; the public as a whole was tired of moral and physical effort, anxious only to get back to "normal" living and forget wartime problems. There was a dangerous moral let-down, a wave of community indifference, and an immediate, significant upturn in the VD rate. Financial support was withdrawn, reducing the essential public health, medical, social and educational efforts, and handicapping venereal disease control activities. This time, it is pointed out, we are faced with an even more explosive situation. Many more young men have been living disrupted lives for a much longer period of time. The whole world is even more emotionally exhausted than in 1919, even more anxious to forget its problems in the relief of peace. There is a new element, too: many people believe that the new weapons against these diseases, especially penicillin, have taken them out of the dangerous class. This unfortunately is not true.

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Clearly there have been gains which will make us better able to cope with the problem now than after the last war. "Medical weapons are more effective, less expensive, less dangerous. More clinics, more equipment, better trained doctors are available. There is a better understanding of the relationship between prostitution and disease, more knowledge of technics for the repression of prostitution, more experience in community organization." The conspiracy of silence around VD, broken by Surgeon General Parran in his article in **Survey Graphic** several years ago, has given way to public enlightenment and a willingness to face the facts regarding these diseases. More people understand that syphilis and gonorrhea are not vague and intangible social plagues but are communicable diseases, proceeding in a given community at a given time—from a relatively small number of foci. They are learning that we must deal with these diseases as we would with plague, smallpox, or any other highly communicable disease, and wipe them out by providing adequate funds and facilities for free diagnosis and treatment of all infected persons and their contacts.

The wartime program of establishing rapid treatment centers throughout the nation should be made permanent. Rapid treatment should be made freely available without charge to every person with early syphilis on the one condition that he or she provide the health department with information which will enable it to bring the contacts under treatment. Rapid treatment with penicillin requires hospitalization for a week. In-patient treatment has led to a higher level of care, better patient education, and better epidemiological control than might otherwise have been possible. The establishment of rapid treatment centers has been very valuable in the control of VD, and the contact interviewer-educators associated with the centers deserve special mention for the fine contribution they have made to the control program.

There is no question but that facilities for case-finding must be extended. Final conquest of syphilis demands concentration of public health effort upon infectious stages—primary, secondary, and early latent—with the intensive patient education and interviews to find their still infectious contacts. It is estimated that such education in Mississippi has tripled the number of contacts discovered.

Dr. J. R. Heller,[2], in discussing future aspects of VD control, estimates that of about 230,000 new cases of syphilis contracted in this country annually, only about three-fourths are discovered and treated and that less than one-half of the patients found remain under treatment long enough to insure against infectious relapse. The unfound and untreated one-fourth and the insufficiently treated lapsed cases are the source of infection for the annually recurring new crop of early syphilis, and they accumulate year in and year out to form the great reservoir of late and latent syphilis. No matter how effective new procedures of treatment may be, they can have little value for reduction of the rate of attack unless persons who are infectious are brought under treatment before they spread their infection to others. Undoubtedly we must have more public education, more patient education, more contact interviewing.

We must explore new methods of case-finding such as mass blood testing demonstrations in industry, in large plantations, in schools and colleges. We must solve the problem of getting across the facts regarding the character and nature of these diseases to that large segment of the population which is apathetic or ignorant regarding VD. One chief aim in education should be to show that the infection can be active and yet silent, painless and yet damaging, as in the case of syphilis. The vast number of asymptomatic gonococcal carriers, a product of our new era in chemotherapy, must somehow be brought under control. There is need to point up the extreme danger of self-medication, especially now that penicillin may be had orally. Patients receiving this drug must remain under supervision for a considerable time to make sure that the drug has actually stopped the progress of their disease.

In any successful VD control program, the medical profession will have a large part. But the private physician must keep up with the new technics, abandon the old once-a-week treatment which only 20 to 30 per cent of the patients actually completed, and adopt a more practical rapid therapy which 97 to 98 per cent will complete. Private medical care will need to close the gap, not lag behind recent developments, by more private physician education in the field of rapid therapy, more efficient epidemiology in private hospitals with beds open for rapid therapy, more routine blood testing in everyday practice. A system of contact reporting practical to the use of the private physician should be developed to insure that the present unfound contacts of cases coming to his attention will not continue to go unchecked.

In a recent article on "Army Contributions to Postwar Venereal Disease Control Planning" by Sternberg and Larimore[3] the belief is expressed that the postwar period will present far greater assets for the control of VD than have been available at any previous time. A large number of physicians and lay personnel trained by the Army and experienced in the principles of venereal disease control will be available. The postwar population, they point out, will be diluted by nine million soldiers, and thus the general educational level concerning VD will be raised to a new high. I hope the authors are correct in this assertion.

Dr. P. Padget[4], reporting on "U. S. Army Experiences in Venereal Disease Control in the European Theatre of Operations" before the National Venereal Disease Control Conference, says:

"The venereal diseases will be, as they have always been, a world problem, and with the conditions which we may anticipate to obtain in a postwar world, with tremendous shiftings of large population groups and with travel between and intercourse among the various peoples of the world on a scale so far unprecedented, we may take for granted that the venereal disease problem will be international, and we in the United States may base our plans upon that concept . . . Among the large body of men who eventually will return to the United States from Europe there will be a number who have acquired a venereal disease. This fact and its possible significance to the public health of the United States must be carefully considered. Basically, a venereal disease control program deals with four elements: the susceptible population, the infected population—made up in part of promiscuous persons—the number of sexual contacts which take place between the susceptible group and the potentially infectious; and protective measures taken to reduce the risk of infection when exposure has occurred. As we review these various avenues of approach, examination of what is meant by education will suffice to illustrate the necessity for developing a venereal disease control program with consideration of local problems. All too frequently we encounter the use of the term 'education' without the slightest consideration of what it is that should be taught. Certainly everyone should know the fundamentals of human anatomy, sex hygiene, and the nature of the venereal disease. . . "

It is apparent that more effort must be directed toward repressing commercialized prostitution and curbing the present widespread promiscuity which is causing much of the increase in VD rates. The solution is not an easy one because there are so many different factors which enter into the individual causes of promiscuity.

A valuable study was undertaken recently by workers in the psychiatric service of the San Francisco Clinic which should prove helpful to those seeking a theoretical explanation of the motivations of promiscuity, as well as an understanding of some of the personal and environmental influences underlying those motivations. It was brought out again that there is much about promiscuity which is a psychiatric problem. Therefore any venereal disease control program which gives due consideration to the **preventive** approach will dwell in terms of the whole person and not just the disease and will include appropriate measures of mental hygiene directed toward helping many of these individuals make proper adjustments in their behaviour.

Among the basic factors uncovered among the 365 patients studied, which seemed enough to suggest a direct relationship to promiscuity, were unsatisfactory familial relationships, often marked by broken homes, and unstable inter-personal relationships. Few patients felt that they had had adequate sex instruction. Various conflicts about sex were seen in the majority of the patients. Uneven development in physical, intellectual, emotional and social maturity for the individual was usually noted. The occurrence of neurotic tendencies was frequent, and environmental factors were often found to have contributed to the promiscuity.

The approach to a solution to this problem must come from many different directions if we are to succeed in building a moral basis for our world which will give it stability and equilibrium. Social workers, biologists, doctors and teachers, philosophers, economists, public health workers, and many others who interpret ideas and concepts that give meaning and value to life must all work without ceasing if we are to achieve this goal.

Among other things we must have a comprehensive and continuous program to bring adequate factual information about sex to children and young people. Such instruction should be started early and geared to the individual's age and understanding. We have in Mississippi a program, instituted last year, called "Education for Responsible Parenthood." With leadership and instructors furnished by the State Health Department, the P.T.A., the Y.W.C.A., Y.M.C.A., and other interested groups, a series of courses have been conducted to help prepare youth leaders to do similar courses in the communities from which they come. Teaching materials and library resources are made available for use in these communities and there is evidence that much good is being accomplished, with the adults participating gaining a much better understanding of youth problems and the young people themselves deriving the proper help in getting the factual information they need.

When the structure of the American family is weakened, it follows that the total structure of our present society will weaken, for it is its strongest link. Therefore it seems time for the family to restress certain of the fundamental values—many by example, others by teaching. A sense of dignity and civic responsibility, a desire to contribute to constructive ends are best inculcated in the early years and in the home. Should the home fail, one must hope for the best from the school, the church, and other outside influences. Unfortunately, however, a great portion of those children from inadequate homes are often not reached early enough by the good influences which might help them. Their plight is not known until some delinquency is exposed and by that time the task of helping them to make proper adjustment to life has become increasingly difficult.

"This war against venereal disease is a fight on many fronts," as Paul V. McNutt, Federal Security Administrator, forcibly points out. "All these sectors—health, law enforcement, ethics, economics, and human dignity—are equally important. The personal, social, and ethical stake in the problem is essentially the concern of the individual, the home, the church, the school, and other forces that shape the pattern of our family and community life. Government, however, is concerned when prostitution and widespread promiscuity become a threat to public health and welfare—by spreading venereal disease; by undermining the families of our population, including young people for whom the future should hold promise. These problems must, in the last analysis, be solved by the communities in which people live. We can help them by keeping them informed on ways and means—on effective and successful lines of action." I am sure that the social workers of America can be counted on to give their fullest support to this program of VD control and thereby see that the gains made in recent years are not lost but extended.

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Recent Public Health Trends in Dentistry*

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It is with pleasure that I come to you today representing the field of public health and a coördinated program of public health dentistry. In my estimation, the terms are inseparable—our services are comparable and we know that the health of our future citizens depends not on just one phase of health, but every aspect. Thus the underlying basis for our common ground lies with the need of the people—better and more adequate health programs. The greatest social and economic problem before our nation today lies in the urge that we have to bring what we may call the fruits of civilization within the reach of every individual in the population.

We have learned to grow things in profusion, to build things on a colossal scale, to produce unnumbered comforts of life; but we have failed to bring these things within the reach of the common man. Briefly, we can produce magnificently, but we are not able to distribute equitably.

Among these fruits of civilization it is entirely proper to list health services and, as a most important part of health service, we must include dental health service—preventive dental health service. It is a well known and accepted fact that science and education are far in advance of our ability to apply what we know to the ills of a suffering humanity. This is especially true of dental health service.

There is a tremendous gap between what is known and what is actually done in this particular health service. The fruits of civilization as exemplified by the defective dental conditions of young men and women entering the armed services during the recent war reveals that dental science and practice have never been brought to a suffering humanity in the measures that we have the right to expect of any awakened country.

The underlying causes of dental disease are distributed everywhere throughout the population. They are as widespread as the common cold. Recent studies show that one-half the child population suffers from dental disease as early as the second year of life. Throughout the pre-school years, the number of children thus affected and the number of cavities per child rises rapidly until at the age of five years we find 90 per cent of the children affected and about one-half have at least six cavities with at least one tooth requiring extraction.

Practically 100 per cent of the school population and 100 per cent of adult population are affected by dental diseases. In spite of this prevalence of dental diseases, not more than 25 per cent of the population are receiving systematic and sufficient dental care. Yet every person is entitled to receive his just inheritance of knowledge in dental practice. But dentistry for adults cannot be provided on a conservative and economic basis until prevention of major disease and impairment of the dental organs are accomplished through universal dental care of children.

We in the field of public health and other health organizations recognize that a preventive dental program is an integral part of our generalized public health functions. There is an increasing opinion among our high ranking public health officials that we assume our responsibility in more effective preventive dental measures. Many have expressed their agreement with the view of the American Dental Association that the problem can be solved ultimately by the timely care of children commencing at two and one-half or three years and continuing that care regularly thereafter. But the general public will have to be educated to do this. No one can go out and make people do it.

We hope that dentists in general practice will devote as much time to children as is necessary to meet the public health problem. Then the increased use of auxiliary personnel on timely care will come only when dental health education begins to make its power fully effective at some future time.

Hence, the trend is toward education, education of the young and old, schools and communities. The problem of dental disease, because of its widespread prevalence in the community and because, directly or indirectly, it is responsible for an incalculable amount of illness and loss of time from gainful occupation, it becomes both a social and economic problem. To bring it under control, community planning is necessary. In this respect it may be compared with certain other public health problems which have been brought under control in a large measure through education of the masses, such as malaria, tuberculosis and typhoid. Even though dental diseases are not as spectacular in our mortality tables, they are responsible for much early disablement and even death.

Surveys that have been made show that dental disease is not confined to any class, rich or poor, not to any state or locality. The findings of these surveys and our experience with public health problems in the past lead us to believe that education of the public and community planning is the means by which improvement of these conditions may be brought about. When educational programs are set up, they must be flexible enough to allow for adjustment according to the special problems of the locality.

All children attend school in due course and almost every family in the community is represented in the school; so the school becomes the most logical and fruitful place to establish a community dental health education program. It is only through education that we can hope to make strides in advancement; and this is true in all lines of progress, including the effort to better the physical health of the race through preventive measures. The final goal of all teaching should be to make the child vocationally fit, socially acceptable and free of pathological conditions. The dental profession has a definite responsibility for its share in accomplishing this goal.

The child must be educated into a sustained desire to have good dental health and the habits and precautions necessary thereto. Dental care for every child is likely to become a fact when every child is demanding dental care. Thus education and service go hand in hand in creating a desire for sound teeth in the mind of every child in the community. Something must be done for that child in the classroom besides sending him to a dentist and having his teeth put in order — free — which is a valuable service, but something must be done that will affect his habits and attitudes toward pain resistance or expense resistance in later life. This is where the properly trained health educators come in. Their services are invaluable. Their function is to supplement the work of dental health and other personnel — not to compete with any or replace any.

If the child is educated into a sustained desire to have sound teeth and the habits and precautions necessary thereto, and chooses his own dentist there will develop a sense of self-reliance and personal responsibility that will fortify him against the neglect of his health after he leaves school.

Our state boards of health and education have joined hands in initiating the use of professionally trained personnel in the field of public health education. Thus far, our state has three health educators working in Coahoma, Lee and Washington counties on a generalized program of health education. They have promoted the dental health educational program chiefly through school superintendents, teachers, public health nurses and community groups. These have consisted of conferences, planning programs, radio, newspaper publicity, preparation of materials and other educational activity as needed. These functions are always in conjunction with the dental hygienist. These people serve as resource persons and coördinators of the dental health program as based on needs and resources of the community. They are in a position to stimulate, guide and get action from school authorities, parent and community groups since their training is both in fields of education and public health. It is possible to use such people as channels for getting the necessary information into school curricula that would be sound and practical rather than the traditional theory of past years. Without widespread education concerning the need for such corrections, parents and children will continue to be the victims of fear, ignorance, and misinformation. Dental defects will continue, will increase and will give rise to an incalculable amount of systemic illness, suffering and needless expense. We can no longer just leave so vital a health program to chance. There must be training—pre-service and inservice—with the teachers and parent groups if we ever hope for better dental health. Schools may demonstrate units of good teaching, but they are not enough, and however effective, their value is only temporary if the learnings do not become a part of total enduring consciousness of the individual and the community. Dental health must become an integral part not only of general health education but of all education if another generation is not again to be dentally unfit. Health educators, serving with other auxiliary personnel will in time make progress in this phase of health through a concerted program of public education. This can only be made possible through the complete utilization of all community resources for protecting, improving and, if necessary, augmenting these resources.

Trends are in evidence of finding some means of help in preventive dentistry, especially with fluorides. In Washington County the beginning of an experimental study was inaugurated this spring using topical applications of fluorine. We hope to see some interesting results from this study. We must recognize that repair programs of the present and past are good but you will agree that preventive programs are better. Effective, extensive, thoroughgoing research is one of the fundamental bases upon which a successful dental care program must rest. The other basis would include prevention, treatment and education, education of the masses on sound practical methods for better dental health. If we attain this goal within a reasonable time, it will require professionally trained people in the field who can work and guide the people along the lines that science progresses.

It is my desire to stress the fact that mouth health conditions should receive attention in early childhood, that most dental diseases are preventable if prevention is applied in the early years, and that prevention is strictly a matter of education—that the use of professionally trained health educators is a definite adjunct to the preventive dental program.

The problem of dental care is the problem, not only of the dental profession, but of the medical profession, of educators, and of all persons who have the welfare of children at heart and the health of our future citizenry.

In summary, I have tried to discuss briefly the following four points:

1. Evaluation of the dental health problem.
2. The value of using professionally trained health education personnel in carrying on the dental program.
3. Public health administrators are becoming more conscious of their responsibility toward including a preventive dental program in their general public health program.
4. The premise of topical applications of fluorine in preventing, or delaying, the development of dental caries.

HILL-BURTON BILL

The passage of the Hill-Burton Hospital Construction and Survey Bill, S. 191, provides that $375,000,000 in federal funds be apportioned to the states on the basis of need for hospital facilities as determined by an inventory of present hospital beds in each state. The measure carries a separate appropriation of $3,000,000 to assist states to conduct surveys, draft plans and designate where and what types of hospital facilities are necessary.

The American Hospital Association reported that surveys are underway in forty states; seven states are organizing surveys; and only one (Missouri) state has as yet taken no action. It is expected that surveys will be completed in at least eleven states by October 1.

"Those states which have already initiated hospital surveys should be ready much sooner for construction grants," Dr. Ward stated, "than will be the case of those states which only now, with the enactment of this federal legislation, are ready to begin such surveys." Federal grants-in-aid such as the Hospital Survey and Construction Act require enabling legislation. The American Hospital Association has urged its affiliated state associations "to work with organizations within the state representing medicine, farm groups, labor, the public, and others to secure the enactment of such legislation as will insure the development of this grant-in-aid program along the lines which will result in the best possible expansion of hospital care in each state."

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All of our medical associations are now getting back under way, no more freezing of meetings, no more rationing of medical information. Our Mississippi State Hospital Association meets on the Coast October 17; American Railway Surgeons in Chicago October 29-31 with our beloved Jere Crook as president; the Southern Medical in Miami November 4-7 with a native Mississippian, M. Y. Dabney of Birmingham, as president; and the Mid-South Postgraduate Medical Assembly scheduled in February with a fine program and Dr. P. W. Lutterloh of Arkansas presiding.

Please do not forget to aid Dr. G. S. Bryan in his request to secure a picture and a brief write-up of every doctor in the state. This is not just a hobby for him, but a most important service he is rendering the profession.

On Friday, October 18, at our state hospital association, a luncheon is planned at which Dr. D. V. Galloway, executive director of the Mississippi Commission on Hospital Care, will be the able consultant on our coming hospital set-up in Mississippi. It will be worth your while to be there.

News and Comment

SOUTHERN MEDICAL PRESIDENT

Dr. M. Y. Dabney, president of the Southern Medical Association, Birmingham, Ala., is a native of Tchula, Mississippi. Our state feels very proud of him. His education was obtained at the University of the South, Sewanee, Tenn., University of Virginia, University of Chicago, Ph.B., and Johns Hopkins, M.D., 1912. He has been the able editor of the *Southern Medical Journal* since 1915. His work, assisted by his very talented and charming wife, has been outstanding for this great medical journal.

In his specialty of gynecology his ability is respected throughout the South. Versatile, widely read, a warm Christian gentleman, he typefies the very best in Southern medicine.

HOSPITAL MEETING TO BE THREE-DAY SESSION

The Hospital Association program is distinguished by several widely known out-of-state essayists, among them Dr. Robert M. Cunningham, Jr., associate editor of the American Hospital Association, Dr. George T. Harrell of Winston-Salem, N. C., Dr. Lee D. Cady, Mr. C. Rufus Rorem, Mrs. Anna D. Thiel and Dr. Seale Harris.

OBST. AND GYNEC. ASSOCIATION

The Alabama Association of Obstetricians and Gynecologists invites you to attend its meeting Thursday, October 17, 1946, to be held in the auditorium, Jefferson-Hillman Hospital, Medical College of Alabama, Birmingham, Alabama.

2:30 P. M.

"Urological Diseases Masked by Gynecological Symptoms" (Lantern Slides) by M. Y. Dabney, M.D., Birmingham, Alabama.

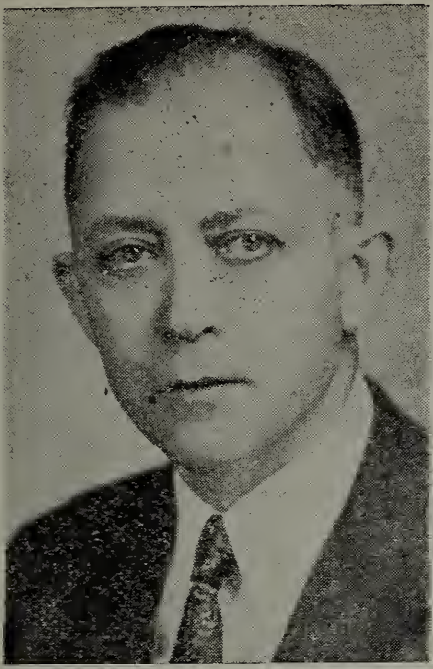
"Functioning Ovarian Tumors," by Emil Novak, M.D., Baltimore, Maryland.

8:00 P. M.

"Hemorrhage in the Last Trimester," by A. E. Thomas, M.D., and J. W. Perry, M.D., Montgomery, Alabama.

"The Significance and Management of Functional Uterine Bleeding," by Emil Novak, M.D.

HOSPITAL ASSOCIATION HEAD



Dr. W. H. Brandon, President of the Mississippi State Hospital Association, which meets at the Edgewater Gulf Hotel October 17-19. By mistake Dr. Adkins of Jackson, outgoing president of the association, was labeled as Dr. Brandon in our last issue, which error we regret. But these men mutually excel in fine qualities and in hospital interest. Dr. Brandon is a native of Tennessee, but is living in Clarksdale, the New York of Mississippi. He is an outstanding general surgeon and one of the best informed men in the Mid-South on hospital affairs. Let us give him a good attendance at this important hospital meeting on the Coast.

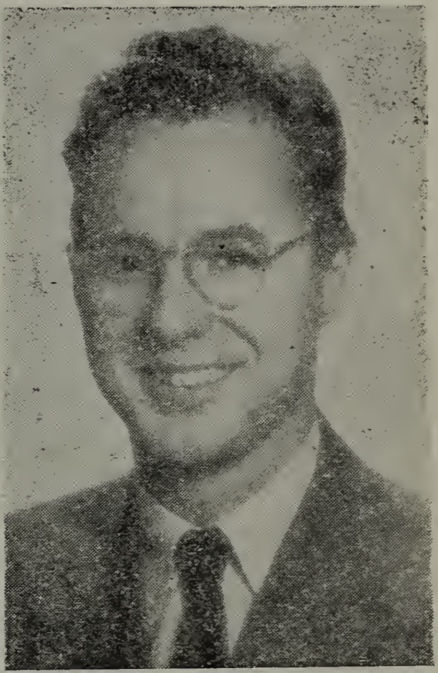
TO ADDRESS STATE HOSPITAL MEETING

Robert M. Cunningham, Jr., associate editor of *Hygeia* since 1941, and managing editor of the *Modern Hospital*, will bring an important message to the state hospital meeting.

Besides writing feature articles and a monthly column of medical news for *Hygeia*, Mr. Cunningham has written a number of articles on medical and related subjects for national magazines, including *Reader's Digest, Coronet,* the *New Republic, Parents' Magazine,* Science *Digest* and others.

Before he went to the American Medical Association in 1941, Mr. Cunningham was for three years a member of the staff of the Plan for Hospital Care in Chicago. While with Blue Cross, he served at various times as manager of enrollment and public relations and head of the hospital department.

Following graduation from the University of Chicago in 1931, Mr. Cunningham was a member of the staff of a public relations firm for two years and then became assistant to the president of Armour Institute of Technology, where he did public relations work and edited the institute's catalogs and other publications.



Robert M. Cunningham, Jr.

RAILWAY SURGEON PRESIDENT

Dr. Jere Crook, widely known physician of Jackson, Tenn., is president of the American Association of Railway Surgeons which will hold its fifty-seventh annual meeting at the Sherman Hotel, Chicago, October 29, 30, and 31, 1946. On Wednesday night, October 30, the president's dinner will be served, accompanied by fine entertainment. We understand that Mr. I. B. Tigrett of the G. M. & O. Raolroad will be the chief speaker on this occasion.

Dr. Jere Crook is a past-president of the Tennessee State Medical Association and a past-president of the Southern Medical Association. He is a surgeon of outstanding ability, an orator of power, a fine citizen, and a most valuable leader in organized medicine.

ANNOUNCEMENT

The staff of the Street Clinic and Mercy Hospital-Street Memorial announces the association of Charles John Edwards, Jr., M.D., ophthalmology and otolaryngology.

RESOLUTION

At the September meeting of the Coast Counties Medical Society the following resolution of sympathy was drawn up and adopted by the Society.

WHEREAS, it has pleased Almighty God in His infinite wisdom to remove from our midst Dr. Dan J. Williams, and

WHEREAS, Doctor Williams has given the greater part of his life to alleviating suffering humanity, and was ever ready to minister to those in need, and this society benefited from his presence and counsel in our meetings, he will be missed where we were accustomed to seeing him, and the memory of his good deeds will always remain with us; therefore

Be It Resolved That the Coast Counties Medical Society in the passing of Doctor Williams, one of its most valued members, that we extend to his family and to his relatives, our deepest and sincere sympathy and condolence; and be it further

Resolved That a copy of these resolutions be spread upon the minutes of our meeting and a copy be sent to his family.

Passed and signed this sixth day of September, 1946.

NORTHEAST MISSISSIPPI MEDICAL MEDICAL ELECTS

At the quarterly meeting of the Northeast Mississippi Medical Society on the University of Mississippi campus on October 10, the following officers were lected for the coming year:

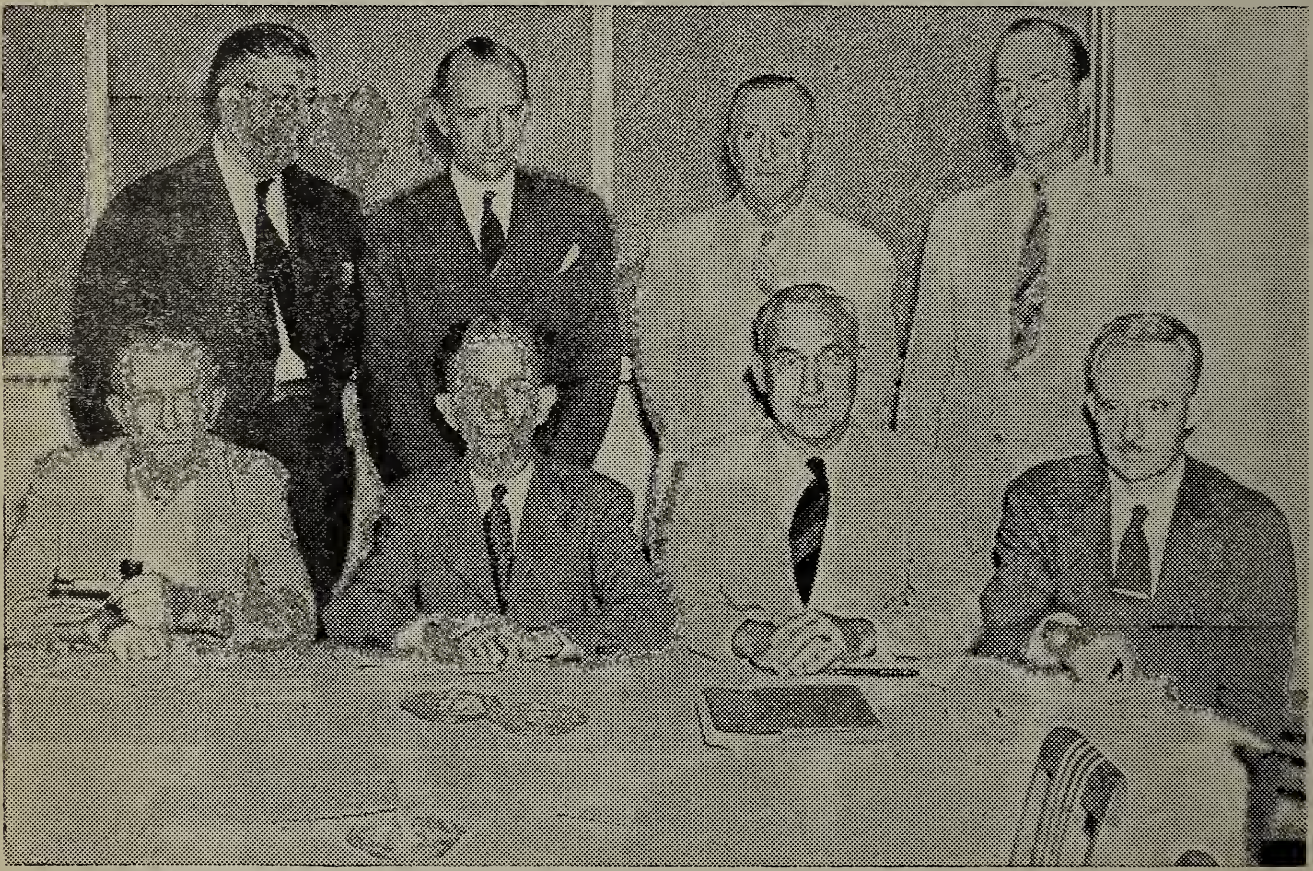
President—Dr. A. H. Little, Oxford.

Vice-President—Dr. J. E. Ellis, West Point.

Secretary—Dr. W. H. Cleveland, Tupelo.

District Councilors—Dr. R. B. Cunningham, Booneville; Dr. Ira B. Seale, Holly Springs; Dr. J. C. Culley, Oxford; Dr. J. Rice Williams, Houston; Dr. A. J. Stacy, Tupelo

MISSISSIPPI COMMISSION ON HOSPITAL CARE



Reading from left to right, back row: Dr. Felix J. Underwood, Jackson; Mr. J. O. Slaughter, Vice-Chairman, Columbus; Mr. Carl Blomquist, Port Gibson; Mr. Owen Cooper, Secretary, Jackson.

Front row: Dr. Henry Boswell, Sanatorium; Mr. Jack M. Montgomery, Chairman, Inverness; Dr. W. Lawson Shackelford, Laurel; and Dr. D. V. Galloway, Executive Director, Jackson.

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson.

Otolaryngology—Edley Jones, Vicksburg.

Ophthalmology—J. Raymond Hume.

Obstetrics and Gynecology—J. F. Lucas, Greenwood.

Orthopedics—Thomas H. Blake, Jackson.

Public Health—Felix J. Underwood, Jackson.

Pediatrics—Harvey F. Garrison, Jackson.

Radiology and Roentgenology—Karl O. Stingily, Meridian.

Pathology—R. M. Moore, Vicksburg, Miss.

Surgery—W. H. Parsons, Vicksburg.

Urology—Temple Ainsworth, Jackson.

DERMATOLOGY

DERMATITIS FROM WEARING APPAREL. Louis Schwartz and Samuel M. Peck, J. A. M. A. 128:1209 (Aug. 28) 1945 — Dermatitis has been reported to be caused by fabrics, such as silk, wool and synthetic fibers, by leather, artificial leather, furs, rubber and rubber-containing materials, such as rubber gloves, dress shields, girdles, socks, pajamas and brassiéres. Metal and metal alloys, used in jewelry and in eyeglass frames, wrist watches and watch straps, also have caused dermatitis. Plastics, used in spectacle frames, straps for wrist watches, garters and suspenders, have produced dermatitis.

In the majority of the reported cases of dermatitis due to the wearing of fabrics the eruption has been caused by the processed fabrics. Dermatitis among the wearers of fabrics is often caused by the finishes rather than by the dyes. The inner lining of shoes, as well as the backing, contains chemicals which may cause dermatitis. In most cases dermatitis from metallic jewelry has been attributed to nickel. Paraphenylenediamine has been the chief cause of dermatitis from fur.

The eruption begins at the place of contact with the offending material, usually five days or more after the garment has been worn. The patch test is the most practical method for demonstrating the actual cause of a contact dermatitis.

DERMATOLOGIC ASPECTS OF POLIOMYELITIS. J G. Reyes, New York State J. Med. 45:1673, 1945.

During the recent epidemic of poliomyelitis in New York, Reyes had the opportunity to observe the great frequency of hyperkeratinization in patients suffering from this disease. In 98 per cent of the cases hyperkeratotic lesions were located on both infrapatellar areas, on the anterior and lateral aspects of both ankle joints, on the dorsa of both feet, on both soles and on the malleoli. These lesions, resembling those encountered in cases of vitamin A deficiency, seemed to be proportional in severity to the severity of the poliomyelitis, their prominence disappearing with the abatement of the poliomyelitis. Therefore vitamin A deficiency may be considered as a possible predisposing cause of poliomyelitis. Further investigations are suggested as to the possibility of treating poliomyelitis with vitamin A.

THE TREATMENT OF SCABIES IN CHILDREN WITH A NEW SARCOPTICIDE — McElhenney, T. J., M.D., Austin, Texas—The Journal of Pediatrics, Vol. 29, August, 1946.

It is stated by the author that "Of all the many sarcopticides recommended and used throughout medical history, not one has proved entirely satisfactory. Sulfur preparations have undoubtedly enjoyed the widest usage. Although sulfur preparations have in general been satisfactory, they have had a number of disadvantages, such as objectionable odor and messiness, high percentage of untoward skin reactions, and necessity of efficient washing and scrubbing of the patient before treatment.

"Recently the use of benzyl benzoate against the Sarcoptes has become popular in the United States. The benzyl benzoate treatment is by no means new, as this drug is the main active ingredient of balsam of Peru, which has been used for many years. Apparently Sachs and Juliusberg in 1900, first advocated benzoate itself as a sarcopticide; however, it was not until 1937, that Kissmeyer popularized the medicament. During the recent war this drug was widely used in the epidemic in Great Britain; and British dermatologists now seem to believe that it is superior to sulfur in deadliness and speed of action against the itch mite.

"Apparently benzyl benzoate may not be used indiscriminately. Intractable scrotal dermatitis has been known to occur after its use, and Daughtry has recently described several cases of severe skin reactions attributable to it. Furthermore, benzyl benzoate is not well-suited to therapy in infants and small children, as its application always causes a certain amount of stinging, and when applied to raw areas may be extremely painful. In his own practice the writer has hitherto tended toward the use of sulfur formulas in the treatment of scabies, but has never prescribed the vigorous washing and scrubbing of small children. Recently the writer has had the opportunity to treat twenty-two cases with a new sarcopticide, an ointment containing zyclopen. The results to date, it is felt, warrant bringing this new formula to the attention of pediatricians. This ointment is an invention of Dr. Max N. Huffman of the Southwestern Medical Foundation, and it is composed of the following ingredients:

4-chloro-3, 5-diamethylphenyl hydrogen dl-camphorate—1.0 Gm.

Ortho-phenylphenol—1.0 Gm.
Anhydrous lanolin—4.0 Gm.
White petrolatum—94.0 Gm.

A one-half ounce jar of this ointment was given to the parents of the infected child with the instruction to use only on affected parts twice daily (morning and night) for two successive days. No directions were given for unusual or extra bathing of the patient."

"The author's comment states that "All twenty-two patients, as is shown in the case reports, were cured after four applications of the ointment.

"The writer definitely prefers zyclophen to any preparation he has used for the treatment of scabies in children. Management with it has been simplicity itself, and no skin reactions have been treated to justify any statement regarding the sensitizing properties of the drug. The ointment has no odor and does not stain clothing; its application, so far, has not been painful to any child."

"In one particular, zyclophen is markedly superior to the usual medicament employed against the itch mite, and that is in respect to its effectiveness in clearing up the secondary pustular involvement so often seen in scabies of long standing. This property is no doubt attributable to the fact that the drug is not only a sarcopticide but a bactericide and fungicide as well.

"It is interesting to note that the percentage of active ingredient in the usual sarcopticide is relatively high. Thus, sulfur is ordinarily administered in 10 to 18 per cent strength, and benzyl benzoate in 20 to 25 per cent concentration. This item is of considerable importance, particularly in children, since the entire body (except for head and neck) is commonly covered with the preparation. In contrast, the concentration of active material in the zyclophen ointment was only 2 per cent; this is surely to be regarded as a step in the right direction if it can be conclusively shown that this 2 per cent of drug is no more toxic nor irritative than a like concentration of one of the other parasiticides."

And his summary states that "A series of 22 cases of scabies in children has been treated with a new parasiticide, zyclophen. Cure in each case has been rapid, complete, non-painful, and free from untoward reactions."

COMMENT—The author's experience with the use of this remedy would justify a trial. The necessary precautions, however, should be observed in all cases to use the remedy on the effected parts only. This should be adhered to cautiously.

One who never turned his back but marched breast
forward,
Never doubted clouds would break,
Never dreamed, though right were worsted, wrong
would triumph,
Held we fall to rise, are baffled to fight better,
Sleep to wake.

State Board of Health

Felix J. Underwood, M. D.

Mary D. Osborne
1875-1946

With the passing of Miss Mary D. Osborne on July 7, 1946, Mississippi and the State Board of Health lost a valued public health worker and friend. For almost a quarter of a century she directed public health nursing activities in the state, working continuously for improvements that were ultimately reflected in better health conditions, lower mortality rates, and a greater appreciation of hygienic living among the state's peoples.

When Miss Osborne first came to the State Board of Health in the fall of 1931, Dr. W. S. Leathers was state health officer. Dr. Felix J. Underwood was then director of the Bureau of Child Welfare and Public Health Nursing, having come to Jackson a few months earlier from Monroe County where he was serving as health officer. The Division of Public Health Nursing had been established with the help of the American Red Cross, which gave it financial assistance. In an early report it was stated that the conditions under which this division was established in Mississippi were a reversal of the usual procedure. "In other states, well established standards of nursing and some development of public health nursing had preceded the organization of a bureau of public health nursing within a state department. In Mississippi, the creation of the division was the beginning of public health nursing in the state." In the years to follow it was to prove itself one of the most essential phases of the public health program.

The state's distinguished record for public health administration was achieved in large measure as a result of the loyal support and tangible backing of its program and policies given it by staff associates like Mary D. Osborne.

Notable among Miss Osborne's public health achievements was the improvement of standards among the several thousand midwives attending mothers and babies throughout the state. In 1921, it was estimated that there were over five thousand of them, and only about seventeen hundred practicing physicians. Then as now, the physician shortage was acute, and because of the peculiar economic and living conditions of that period the midwife was termed a necessity. Most of the midwives were poorly qualified for their work; many were ignorant and superstitious. It was apparent that some supervision and regulation of the practice of these women must be had in order to protect the life and health of the mothers and babies whom they attended, and also to obtain more accurate registration of births and deaths. Investigation of the midwives became a major public health objective. Registration was granted them only after an investigation of the following:

1. Personal characted and general intelligence.
2. Cleanliness of her person, her home and her midwifery outfit.
3. The possession of instruments or drugs which a midwife is not permitted to use.
4. Ability and willingness to apply preventive measures against ophthalmia neonatorum.
5. The general standard of her work in the community.
6. Her reputation for calling a physician in difficult or abnormal cases.
7. Her record for reporting births to the proper authorities.

No midwife was given a certificate until she had been investigated by the supervising nurse and recommended by the county health officer. In this way it was hoped to: 1) make the midwives improve the quality of their service; 2) make them realize the limitations of their practice and the importance of calling in a physician when indicated: 3) reduce maternal and infant deaths; 4) prevent blindness in the newborn; 5) ferret out women who were practicing midwifery without essential instruction and license.

Those who recall the condition of Mississippi's country roads in the early 1920's and the difficulties and hazards of travel in wet weather can appreciate the tremendous job of getting this program underway in the remote and inaccessible areas of the state. But the work was finally organized on a state-wide basis and instruction and demonstrations were began. The shortage of nurses made it necessary for the supervisor of the Public Health Nursing Division herself to get out into each of the counties, from which she would issue calls to all midwives by letter, notifying them to come in to the county seat for meetings. Here she taught them in language they would understand valuable lessons in saving the lives of mothers and babies. Miss Osborne believed in her work, and the good results which she was finally able to achieve bear testimony to her patience and thoroughness in training these midwives to follow better methods. "The negro women," she once pointed out, "although illiterate and ignorant, are natural nurses and are eager to learn." Because of their illiteracy, oral instruction in the simplest language was employed, accompanied by demonstrations of methods they should follow. Thus many of them learned for the first time important lessons in protecting health and in saving life. Miss Osborne's persevering efforts in this field might be compared to those of a good missionary who appreciates that the ultimate goal is a worthy one and who tirelessly works against all obstacles until it is eventually realized.

Miss Osborne is in reality a public health pioneer in Mississippi, who blazed a trail for a public health nursing service comparable to the best to be found. Devoted to her work, she infused a spirit of serving which remains even though she is gone. A student herself, she encouraged study and learning among her nurses and thus developed a better preparation for this field and a higher standard of public health nursing service.

Her fine contribution to Mississippi's public health program is a matter of record. She will be greatly missed by everyone who knew and loved her. Her good work lives on and provides an excellent foundation upon which others may build.

* * *

RECENT ADDITIONS TO THE LIBRARY

Physicians throughout the state have termed the Library a most essential and helpful service. Books may be borrowed for two-week periods. Journals also may be borrowed for limited periods. The librarian will select references on any subject in which the physician may be interested. Those not living in Jackson are privileged to use the Library by mail. Recent additions to the collection include the following of interest to physicians:

1. Alexander, Franz and French, T. M. —Psychoanalytic therapy: Principles and application. Ronald, 1946.
2. Allen, E. V., Barker, N. W. and Hines, E. A., Jr.—Peripheral vascular diseases Saunders, 1946.
3. Allen, R. B.—Medical education and the changing order. Commonwealth fund, 1946.
4. American Association for Advancement of Science—Tuberculosis and leprosy: The mycobacterial disease. Science press, 1938.
5. Ash, J. E. and Spitz, Sophie—Pathology of tropical diseases: An atlas. Saunders, 1945.
6. Association of Official Agricultural Chemists—Official and tentative methods of analysis. Washington, 6th ed., 1945.
7. Baetjer, A. M.—Women in industry: Their health and efficiency. Saunders, 1946.
8. Barber, M. A.—A malariologist in many lands. University of Kansas, 1946.
9. Berg, R. H.—The challenge of polio. Dial press, 1946.
10. Best, C. H. and Taylor, N. B.—The physiological basis of medical practice, 4th ed. Williams and Wilkins, 1945.
11. Bierring, Walter L.—Rypins' medical licensure examinations. Lippincott, 1945.
12. Bockus, Henry L.—Gastro-Enterology. (3 Vols.) Saunders, 1943-46.
13. Burch, George and Winson, Travis—A primer of electrocardiography. Lea and Feb., 1945.
14 Carmichael, Leonard, Ed.—Manual of child psychology. Wiley, 1946.
15. Castiglioni, Arturo—Adventures of the mind. Knopf, 1946.
16. Chadwick, H. D. and Pope, A. S.—Modern attack on tuberculosis. Rev. ed. Commonwealth fund, 1946.
17. Clinics: Symp. on: Problems in geriatric medicine. Feb., 1946. Symp. on: Physical Medicine. Apr., 1946. Common Cardiac Conditions. June, 1946.
18. Coca, Arthur F.—Familial nonreaginic food-allergy. Thomas, 1945.
19. Collens, W. S. and Boas, L. C.—The modern treatment of diabetes mellitus. Thomas, 1946.
20. Craig, C. C. and Faust, E. C.—Clinical parasitology, 4th ed. Lea and Febiger, 1945.
21. Dattner, B.—The management of neurosyphilis. Grune and Stratton, 1944.
22. Dunlap, F. L.—White versus brown flour. Wallace and Tiernan, 1945.
23. Edge, P. G.—Vital statistics and public health work in the tropics. Bailliere, 1944.
24. Fischer, M. H.—A truthtelling manual and the art of worldly wisdom (collection of aphorisms). Thomas, 1945.
25. Flesch, Rudolf—The art of plain talk. Harper and Bros., 1946.
26. Frobisher, M. Jr.—Fundamentals of bacteriology, 3rd ed. Saunders, 1944.
27. Glasser, Otto—Dr. W. C. Rontgen. Thomas, 1945.
28. Glueck, Bernard, ed.—Current therapies of personality disorders Grune and Stratton, 1946.
29. Gold, Harry, ed.—Cornell conferences on therapy, Vol. 1. Macmillan, 1946.
30. Goldstein, S. 9.—Marriage and family counseling. McGraw-Hill, 1945.
31. Gordon, S. M.—Dental science and dental art. Lee and Febiger, 1938.
32. Graybiel, A., White, P. D., et al—Electrocardiography in practice, 2nd ed. Saunders, 1946.
33 Grinker, R. R. and Spiegel, J. P.—Men under stress. Blakiston, 1945.
34 Guthrie, Douglas—A history of medicine. Lippincott, 1946.

35. Gutman, A. B., ed.—Modern drug encyclopedia and therapeutic index, 3rd ed. Yorke, 1946.
36. Hasenjaeger, Ella—Asepsis in communicable disease nursing, 2nd ed. Lippincott, 1944.
37. Handley, H. E. and Randolph, C. R.—Eight years of public health work, Jones County, Mississippi. 1937-1944. Commonwealth fund, 1946.
38. Hoskins, M. M. and Bevelander, G.—Essentials of histology. C. V. Mosby, 1945.
39. Janney, J. C.—Medical gynecology. Saunders, 1945.
40. Levinson, S. A. and MacFate, R. P.—Clinical laboratory diagnosis, 3rd ed. rev. Lae and Febiger, 1946.
41. Lichtman, S. S.—Diseases of the liver, gallbladder and bile ducts. Lea and Febiger, 1942.
42. Lindner, R. M.—Rebel without a cause. Grune and Stratton, 1944.
43. Lowery, Lawson G.—Psychiatry for social workers. Columbia Univ. press, 1946.
44. Masserman, Jules H.—Principles of dynamic phychiatry. Saunders, 1946.
45. McClendon, J. F.—Physiological chemistry, 7th ed. Mosby, 1946.
46. McCord, Carey P.—A blind hog's acorns: Vignettes of the maladies of workers. Cloud, 1945.
47. McCrady, M. H. and Sherman, M.—Intelligence and its deviations. Ronald press, 1945.
48. McCulloch, E. C.—Disinfection and sterilization. Lea and Febiger, 1945.
49. McNeill, Clyde—Roentgen technique, 2nd ed. Thomas, 1945.
50. Medical Clinics of North America: (Mayo Clinic No.) Vol. 30, No. 4. Saunders, July, 1946.
Symp. on Rheumatic diseases. Saunders, May, 1946.
51. Merrit, H. H., Adams, R. D., and Solomon, H. C.—Neurosyphilis. Oxford Univ. press, 1946.
52. Mumford, Lewis—Values for survival. Harcourt B. and C., 1946.
53. Napier, L. E.—The principles and practice of tropical medicine. Macmillan, 1946.
54. National Foundation for Infantile Paralysis, Inc.—A bibliography of infantile paralysis (1789-1944). Lippincott, 1946.
55. Olson, Lyla M.—Prevention, first aid and emergencies. Saunders, 1946.
56. Prescott, S. C. and Winslow, C. E.—Water bacteriology, 6th ed. Wiley, 1946.
57. Principles of bacteriology and immunity, 3rd ed. 2 Vols. Williams and Wilkins, 1946.
58. Schwartz, L. and Peck, S. M.—Cosmetics and dermatitis. Hoeber, 1945.
59. Sherman, H. C.—Chemistry of food and nutrition, 7th ed. Macmillan, 1945.
60. Sigerist, H. E.—The university at the crossroads. H. Schuman, 1946.
61. Smith, Geddes—Psychotherapy in general medicine. Commonwealth fund, 1946.
62. Stander, H. J.—Textbook of obstetrics. Appleton-Century, 1945.
63. Steincrohn, P. J.—What you can do for angina pectoris and coronary occlusion. Doubleday, 1946.
64. Stern, B. F.—Society and medical progress. Princeton Univ. press, 1941.
65. Stern, E. M.—The attendant's guide. Commonwealth fund, 1945.
66. Stieglitz, E. J.—Geriatric Medicine: Diagnosis and management of disease in the aging and in the aged. Saunders, 1943.
67. Stone, M. J. and Dufault, P.—The diagnosis and treatment of pulmonary tuberculosis. Lea and Febiger, 1946.
68. Temkin, Owsei—The falling sickness. John Hopkins press, 1945.
69. Thorek, Max—The face in health and disease. Davis, 1946.
70. Todd, R. L. and Freeman, R. B.—Health care of the family. Saunders, 1946.
71. Wall, F. P. and Zeidber, L. D.—Health guides and guards, 3rd ed. Prentice-Hall, 1946.
72. Who's Who in America—Vol. 24, 1946-47. A. N. Marquis Company, 1946.
73. Williams, J. F.—Personal hygiene applied, 8th ed. Saunders, 1946.
74. Williamson, Bruce—A handbook on diseases of children, 4th ed. Wm. Wood, 1945.
75. Wilson, G. S. and Miles, A. A.—Topley and Wilson's Principles of bacteriology and immunity. 3d ed., 1946. (2 vols.)
76. Worchester, Alfred—The care of the aged, the dying and the dead, 2nd ed., Thomas, 1945.

PREVALENCE OF COMMUNICABLE DISEASES IN MISSISSIPPI

	July 1946	July 1945	July 5-Yr. Aver.
Acute Poliomyelitis	60	2	19.0
Bacillary Dysentery	731	1728	1907.6
Dengue	0	0	.2
Diphtheria	15	28	21.8
Influenza	1234	939	1070.6
Measles	416	306	328.4
Meningococcus Meningitis	4	5	6.6
Other Forms Meningitis	4	5	3.2
Pellagra	193	218	262.6
Pneumonia	675	441	480.2
Pulmonary Tuberculosis	194	139	149.4
Scarlet Fever	10	23	15.4
Smallpox	0	1	1.0
Tularemia	4	2	2.8
Typhoid Fever	17	15	24.6
Typhus Fever	16	24	16.2
Undulant Fever	14	15	7.2
Whooping Cough	791	658	962.8

Woman's Auxiliary

OFFICERS

President	Mrs. Stanley A. Hill	Corinth
President-Elect	Mrs. S. B. McIlwain	Pascagoula
First Vice-President	Mrs. Laurence J. Clark	Vicksburg
Second Vice-President	Mrs. A. L. Gray	Jackson
Third Vice-President	Mrs. W. H. Anderson	Booneville
Fourth Vice-President	Mrs. W. H. Cleveland	Tupelo
Recording Secretary	Mrs. R. P. Greaves	Jackson
Treasurer	Mrs. J. B. Simmons	Cleveland
Parliamentarian	Mrs. W. C. Pool	Cary
Historian	Mrs. H. F. Garrison, Sr.	Jackson

PRESIDENT'S MESSAGE

The twenty-third year of the Woman's Auxiliary to the Mississippi State Medical Association launches forth. There lies behind us a panorama of service, usefulness and visions materialized. It is my privilege to carry on the work that Mrs. Clark has so well accomplished. Her enthusiasm and eagerness for expansion and growth greatly increased our membership during the trying war years. Let us hold high her accomplishments and pledge our efforts to go forward in our work.

The Auxiliary has at heart the best interests of the medical profession. Our work, whatever we do, must in its integrity and standards be beyond reproach. Therefore, become an informed member. Study the Mississippi State Medical Association's constitution, as well as the Auxiliary's. Use the *Handbook* as an authentic guide. Subscribe to the *Bulletin*. And by all means read and circulate *Hygeia*.

The Auxiliary can fit itself into a health program that cannot be supplied by any other group. If any auxiliary member plays her part in lay club work, it is her duty to help supply community needs in the place where they best serve. Certainly that is in the field of health education. Here she has an opportunity to exert all possible influence to see that health matters are presented in programs with material from approved sources.

An important task we have today is acquainting ourselves with the pending legislation which has a tendency to affect the entire profession. The House of Delegates of the American Medical Association went on record December 5, 1945, requesting the Woman's Auxiliary to use every avenue possible to disseminate knowledge concerning the hazards of current medical legislation to its members and through them to the public. The Auxiliary has been challenged. There awaits a specific work for every doctor's wife. We must first have a thorough comprehension and understanding of legislation — then enlighten the public.

Holding the membership and gaining new members is an important feature of a good auxiliary. May we continue our efforts to increase the membership this year.

By a program of service, we serve our husbands and humanity. Guided by the Advisory Council and your continued efforts, I feel that we can prove ourselves worthy of being a part of such a noble profession.

Alice P. Hill, President

ATTENTION: *Hygeia* Chairmen

As you know, the contest for subscriptions to *Hygeia* began September 1, 1946, with cash prizes amounting to $400.00.

I hope all of you will enter this contest, not only for the prize money, but to place this helpful magazine before the public. The regular price of the magazine for twelve months is $2.50. During this contest, a special offer of $1.25 is offered for twelve months. I know you will want to enter this contest.

Mrs. W. H. Cleveland
Hygeia Chairman

CENTRAL MEDICAL AUXILIARY

The Women's Auxiliary to the Central Medical Society held its first meeting of the year at the home of Mrs. Adna G. Wilde on September 26. Serving with Mrs. Wilde as hostesses were Mrs. W. F. Hand, Mrs. H. R. Shands; Mrs. J. G. Thompson, Mrs. R. C. Ricks, Mrs. T. W. Kemmerer, Mrs. Fred Hollowell, Mrs. Boyd Edwards, Mrs. Tate Carl, Mrs. O. A. Schmid, Mrs. I. C. Huggins, Mrs. John A. Milne and Mrs. George A. Owens.

The meeting was presided over by the president, Mrs. W. F. Hand. Officers and committee chairmen for the year were introduced. Mrs. Stanley Hill, state president of the Women's Auxiliary and the honored guest, was the principal speaker.

The following members and visitors were present: Mrs. Johnson Witt, Mrs. Luther P. Crull, Mrs. Nathan F. Kendall, Mrs. Thomas S. Robertson, Mrs. James W. Caden, Mrs. Tom Blake, Mrs. T. E. Wilson, Mrs. Robin Harris, Mrs. A. J. McIlwain, Mrs. W. R. Bethea, Mrs. N. C. Womack, Mrs. Charles E. Ward, Mrs. Harvey Garrison, Jr., Mrs. J. W. Barksdale, Mrs. Percy Hudson, Mrs. J. C. Walker, Mrs. G. C. Verner, Mrs. W. C. Thompson, Mrs. Lawrence W. Long, Mrs. Thomas G. Ross, Mrs. George E. Riley, Mrs. James A. Chustz, Mrs. Temple Ainsworth, Mrs. Lloyd Deddens, Mrs. T. A. Baines, Mrs. Lays W. Willey, Mrs. B. N. Walker, Sr., Mrs. C. W. Denser, Mrs. Peyton Greaves, Mrs. J. P. Wall, Mrs. H. F. Magee, Mrs. John B. Howell, Jr., Mrs. J. Gordon Dees, Mrs. William M. Dabney, Mrs. Edwin P. Hall, Mrs. Ray Biggs, Mrs. Raymond F. Grenfell; Mrs. T. B. Holloman, Florence, Mrs. John Dickson Carr, Whitfield, Mrs. C. H. Heywood, Canton.

There were several visitors from the Veterans Administration hospital.

The Prevention of Conduction Deafness*

GILBERT E. FISHER
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In 1924 a laboratory was established at the Johns Hopkins Hospital, under the direction of Dr. S. J. Crowe, for the study of the causes and prevention of deafness. Dr. Crowe's plan of investigation was patterned after that used so successfully in general pathology, *i. e.* the correlation of impaired function as determined by clinical tests with the location and nature of the causal lesion. Through the courtesy of the Bell Telephone Laboratories, an audiometer was obtained which enabled Dr. Crowe to test a range of tones from 32 to 16384 double vibrations per second, which was not available in the commercial audiometers. As the number of records increased, and this number execeded 15,000 records during the first fourteen years of the experiment, it became apparent that impaired hearing for high tones was extremely common in children as well as in adults.

Impaired hearing for high tones with good hearing for low tones had always indicated an inner ear or nerve lesion prior to Dr. Crowe's investigation. However, this particular finding was noted so frequently in children, during this investigation, that it led Dr. Crowe to doubt this classic teaching. Doubts were increased by the observation that some of the children regained their hearing for high tones after the removal of enlarged adenoids. This led to a more careful preoperative and postoperative examination of the nasopharynx with the electric nasopharyngoscope, an instrument which is absolutely essential if one is to obtain a clear view of the region of the eustachian tube orifices.

Examination of children with an electric nasopharyngoscope prior to surgical removal of the nasopharyngeal lymphoid tissue, or adenoids, so-called invaribly reveals a large mass of this tissue in the nasopharynx which partially or completely obstructs the posterior nares and eustachian tube orifices. During childhood the lymphoid tissue of the pharynx and nasopharynx reacts to infection by increasing in size. and spreading, by hypertrophy, to areas of mucous membrane normally free from it. It often happens that even in a very few months after surgical removal of the tonsils and adenoids in children and occasionally in adults, numerous nodules of lymphoid tissue appear on the lateral and posterior walls of the pharynx. This condition is commonly called granular pharyngitis. It is not due to inadequate or incomplete original operation, but is due to the fact that the lymphoid tissue is an integral part of the nasopharyngeal and pharyngeal mucosa, and it is surgically impossible to remove all tiny islands of it without removing a full thickness of the mucous membrane. In over 75 per cent of the children with high tone loss that failed to clear up after operation, Dr. Crowe found an overgrowth of lymphoid tissue nodules in and around the nasopharyngeal orifice of the eustachian tubes. An electric nasopharyngoscope was used in all cases so that a perfectly clear view could be obtained of the region examined.

The enlarged mass of lymphoid tissue in the nasopharynx preoperatively, and this recurrent growth of lymphoid tissue postoperatively, partially or completely obstructs the eustachian tubes, causes hypersecretion of mucus, which impairs function and produces chronic irritation in the tubes and middle ears. When this condition is present, normal drainage of mucus secreted in the middle ear cannot be maintained. This results in the tympanic membrane becoming retracted; myxomatous changes taking place within the tube itself, and consequent loss of normal vibration of the tympanic membrane and an insidious loss of hearing.

The earliest symptom of such an obstruction is impaired hearing for the tones above 10,000 double vibrations. Good hearing in the middle of the scale, from 250 to 3000 double vibrations, is essential for understanding speech, and until hearing for the middle tones becomes impaired, children with partial tubal obstruction may have no evident difficulty in hearing at school or at home, or if they do, it is ascribed to inattention. When untreated, the deafness progresses by involving one octave after another toward the lower end of the scale, and becomes evident only when the tones in the speech range are affected. Thus, one can readily see, the primary cause may be insidiously damaging the hearing apparatus for a number of years before being recognized. The location of the offending tissue makes it practically impossible to remove this hyperplastic lymphoid tissue surgically without further damaging the tubes.

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*Read before the Section on Eye, Ear, Nose and Throat at the annual session of the Mississippi State Medical Association, Jackson, Miss.

Within the past forty years it has been demonstrated conclusively that lymphoid tissue is readily affected when exposed to the rays of radium or x-ray. Heinlke[1] and Akaiwa and Takeshima[2] have shown how the above mentioned rays affect lymphoid tissue. When lymphoid tissue is first exposed to radiation it undergoes a swelling or enlargement during the first hour. After one hour the nuclei of the cells begin a disintegration which reaches its height in approximately six hours. This is followed by phagocytosis of the chromatin particles of the decomposed nuclei, diminution in the size of the involved tissue, and finally a very marked increase in the proliferation of the new connective tissue. The whole process requires approximately three weeks. With the knowledge at hand, that lymphoid tissue is more susceptible to irradiation than the adjacent epithelium, muscle, glandular structures and bone, Dr. Crowe, under the aid and advice of Dr. Curtis F. Burnam, began to treat hypertrophied lymphoid tissue of the nasopharynx with radium. The radiation was applied through an applicator small enough to pass along the floor of the nose into the nasopharynx. With an electric nasopharyngoscope in one side of the nose and the applicator in the other, it is possible to place the applicator under visual control.

With the applicator in place, a two-gram minute exposure is given to each side of the nasopharynx, at the orifice of the eustachian tube. This small safe dose of radiation does not destroy or totally remove lymphoid tissue, but does reduce its size and temporarily inhibit its growth. As the lymphoid tissue is reduced in size the patency of the eustachian tube is reëstablished and normal function is restored.

Several thousand patients with impaired hearing thus treated by Dr. Crowe have regained normal hearing, as conclusively proved by many audiometric studies taken before and after this type of treatment.

This combination of factors proves that the most common type of middle ear deafness in adults begins in childhood between the ages of five and ten years. It progresses so gradually and insidiously that it may not become evident until it is too late to correct the primary trouble and restore hearing. Dr. Crowe feels that if school children in the primary grades were examined with an electric nasopharyngoscope at least once a year, and those with hyperplastic lymphoid tissue in and around the orifice of the eustachian tubes were treated with radiation as often as necessary to insure normal functioning of the tubes, the number of deaf adults in the next generation could be reduced to fifty per cent.

During my last five years it has been my privilege to treat in the above described manner with radium, over 1200 children and adults whose nasopharynx exhibited hyperplastic lymphoid tissue as seen with the aid of the electric nasopharyngoscope. Many of the children have experienced vast improvement in their hearing, and innumerable adults have ceased to experience commonly repeated attacks of acute nasopharyngitis.

In conclusion, I wish to make it perfectly clear that all credit for this original work belongs solely to Dr. Crowe, professor of otology, at the Johns Hopkins Hospital. It has been my great pleasure merely to carry out his revolutionizing observations and teachings. The medical profession has Dr. Crowe to thank sincerely for bringing it out of the "dark ages" to its present knowledge of the prevention of conduction deafness.

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Schistosomiasis Japonicum – A Case Report*

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With the return of thousands of men of our armed service from foreign theatres, the diseases that might be harbored by, and brought with, these veterans to the United States is a problem of medical and economic importance. From the Pacific area, especially the tropics and semitropics, have come soldiers, sailors and marines with diseases quite common and endemic in these regions but to most of us in the States rare and at times almost unheard of entities. It is essential that the medical profession be aware of, and alert to, the possibility of finding what used to be known as the rare tropical diseases. Because of the recent diagnosis of a case of schistosomiasis found in our clinic in a sailor returned from the Pacific theatre, we present this paper as an example of vague gastro-intestinal symptoms initiating a dreaded, chronic and disabling tropical disease. In such situations as this young man presents, an early correct diagnosis with proper therapy immediately begun can do much toward solving the health problem of many of our worthy ex-service men.

Among the diseases returning with our veterans, especially those stationed in the Orient and surrounding areas, is schistosomiasis. This disease is caused by blood flukes and is of three types due to 1) Schistosoma japonicum, 2) Schistosoma mansoni, 3) Schistosoma haematobium. The variety encountered mostly by our armed forces was schistosomiasis japonicum chiefly from the Philippine region (Leyte); other endemic areas in the Pacific include Japan, Formosa, Central and South China. The other types of schistosomiasis are endemic in Egypt, East, West and Central Africa and the West Indies along with the northern section of South America (S. mansoni) and Africa, Palestine, Iraq, Syria (S. haematobium).

Schistosomiasis japonicum runs a clinical course characteristically separated into three stages: 1) incubation, 2) acute, 3) chronic. In the incubation period the parasite penetrates the skin of the victim only rarely leaving any trace of his entrance except possibly a mild irritation with itching. Having reached the lungs in large numbers the larvae at times produce an atypical pneumonia, the patient complaining of having had a severe "chest cold." Many, but not all, patients soon break out with an urticarial allergic reaction supposedly due to their sensitivity to the foreign protein of the parasite. Right upper quadrant pain and epigastric discomfort due to an enlarging liver are symptoms frequently noted at this stage of the infection. Weakness and drenching night sweats are prominent features. Very soon bouts of loose stools passing into frank diarrhoea set in.

When the flukes begin to deposit their eggs, the second stage, the acute phase of the parasitizing, occurs. It is the intestinal tract of the best that bears the brunt of this stage. In S. japonicum the small intestine suffers in the initial attack often joined by the colon in the later development. The patient typically describes a mid and lower abdominal soreness with loose stools containing mucus clinging to the sides and at times blood during this period of the illness. Intestinal changes produced by the parasite inhibit the digestion and absorption of food. Because of the back passage of the eggs into the portal blood stream with consequent occlusion of the portal flow an enlarged and tender liver and spleen results. The most conspicuous symptom is cramping epigastric pain accompanied by abdominal tenderness, especially in the upper quadrants. Fever and night sweats continue. Usually all types of foods offend and any physical exertion is provocative of abdominal discomfort. Dysenteric stools are a continuous source of annoyance. The blood usually shows at this time a leukocytosis with eosinophilia. The third or chronic stage of the disease is the tragic and disabling phase. Here the patient assumes the appearance of a pale, weak, washed out semi-invalid. The mental and physical energy have vanished, the appetite is no more and it is apparent that the individual has reached the climax of a chronically invaliding disease. Cirrhosis of the liver with its accompanying signs and symptomatology is often quite in evidence. Dyspnea and apathy are striking. The usual cause of death is an intervening infectious process such as pneumonia.

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*It is believed that this is the first case reported in medical literature in this country since World War II ended.

In the great majority of cases diagnosis is made by recovery of the schistosome eggs from the stool. In the more chronic cases the eggs are less readily isolated. In some few cases eggs may be recovered from the bowel wall by sigmoidoscopy after special stool examinations have failed, however these instances are apparently very rare.

The prognosis is poor except in those acute and very early chronic cases that have had the good fortune of immediate adequate therapy.

Two drugs are used with success provided their benefits are sought early. Fuadin is recognized by many as the drug of choice, however, a recent group of investigators is of the opinion that tartar emetic is superior.

The case is that of a white male, age 22, height 5' 11½", weight 189 pounds, recently discharged from the Navy. During his tour of service the following localities were encountered: Samoa, New Caledonia, Guadalcanal, Tulagi, New Guinea, Schouten Islands, Biak, Rendova, Leyte, Morotai, Borneo, Hawaii. While stopping or stationed in these various areas, the patient swam in their waters in practically every case; in Rendova he swam in fresh water several times.

The patient's chief complaint was nausea and vomiting with stomach cramps for two years. This complaint began in the South Pacific while he was in the Navy and was accompanied on several occasions by bouts of dysentery, each lasting approximately two to three days. The present spell began one week before admission and had continued since. A typical "spell" consisted of fever at times as high as 104 degrees with occipital headache, nausea and vomiting with stomach cramps and dysentery. The vomitus was usually recently eaten food but on infrequent occasions bright red blood was seen. Mucus was early noted to be "hanging on" to the sides of the stool but no actual blood was observed. The stool was semi-liquid with two to four movements daily. Cramping epigastric pain has been a dominant feature of each of the episodes, no radiation occurring and the pain is often made worse by excitement and food intake (which produces a full feeling). Soda at times relieves epigastric distress. There are no especial recognizable food intolerances as all food seems to produce some feeling of discomfort. Periods of nausea and vomiting have been pronounced for two to three weeks, and then seem to disappear for several days. The stools have been semi-liquid at all times. The patient states that when sitting to defecate it seems as though the contents of the bowel may go either up or down. There have been no chills, no aching of the muscles, joints or back during any of the episodes. No malarial history is obtained. The patient was told by Navy physicians that he had "cat fever" or "dysentery" with each spell. No jaundice, abnormal color changes in stool or urinary symptoms have been noted. The patient says that he had several bad colds but no pneumonia or bronchitis during this interval of sickness. For the past year or so, frequent drenching night sweats have occurred. No single urticarial outbreak is recalled although few episodes of whelps of heat rash did occur during his travels. No accurate temperature readings were taken except during his sick bay stays. In the past nine months weight fluctuations from 148 to 199 have been checked. The appetite has remained fair during this time. Physical and mental fatigue has been an increasingly prominent symptom during the past few months.

The past history reveals the passage of what the patient terms "gravel" in the urine at the age of 15 and again at 17. An appendectomy was performed in 1940 without complication. The family history is without significance.

The physical examination revealed a well developed, well nourished young man of excellent physique, in no apparent discomfort and not acutely ill. The essential positive findings were slight tenderness in the right quadrant of the abdomen, definite tenderness left upper quadrant, spleen barely palpable and tender, deep reflexes hypoactive throughout; liver not palpably enlarged. The remainder of the physical examination was essentially negative.

The laboratory findings showed the urine to contain on repeated checks 0-4 wbc/hpf and 1-2 rbc/hpf. One specimen read 15-25 rbc/hpf. Mucus threads were noted in practically every specimen. Urinary sediment smears were negative. The stool was examined by (a) simple fecal smear, stained and unstained, (b) 33 per cent zinc sulfate flotation technique, (c) fecal sedimentation technique,

(d) acid-ether extraction method, and in no demonstration could a definite diagnosis of parasitic disease be made. The stool was examined on ten separate occasions. The blood studies were rbc = 4,790,000, wbc = 9,500, hemoglobin 100 per cent, and normal differential count. An icterus index on July 11 was 11, repeated on July 16 with same value (the blood serum was moderately cloudy). All routine agglutinations were negative. Total proteins were 7.1 grams with albumin 5.0 grams, globulin 2.1 grams. The cephalin cholesterol test at the end of twenty-four hours was plus one; at forty-eight hours it was plus one. A glucose tolerance test showed values of fasting 62, 1 hour 88, 2 hours 100, three hours 62, four hours 75, five hours 80, and six hours 75. The blood Kahn was negative. Napier's aldehyde test was negative. Sputum examinations were negative. A B.M.R. of plus 19 per cent was not considered entirely satisfactory. An electrocardiogram was essentially normal. A gastric analysis produced total acid 36 free acid 18, combined acids 18 in fasting specimens. The patient could not retain tube for further tests.

The x-ray examinations showed the heart and lungs to be normal. The esophagus and stomach exhibited no filling defects; the stomach was hypertonic with a moderate pylorospasm. After four hours there was twenty per cent retention of barium in the pyloric area and duodenal cap. The duodenal cap was spastic, filling only upon deep pressure; emptied slowly but was smooth in outline. The remainder of the duodenal loop appeared normal. During the barium enema the opaque material passed without obstruction from rectum to cecum exhibiting an irritable descending colon with spells of hypertonicity; in the upper descending branch three small filling defects suggestive of ulceration were noted. The Graham-Cole test showed fair concentration of dye in globular gall bladder of normal size located opposite T12; no stones evident; after fat meal 50 per cent retention. All sinus films were essentially normal.

Sigmoidoscopy performed on July 16 and repeated on July 23: Instrument was inserted to a depth of 20 cm. revealing no definite ulcerations but prominently engorged vessels in three or four small groups about the size of a dime. The mucosa in the vessel area was slightly inflamed; a small amount of yellow-white mucus was visualized in areas observed. Smears were taken from the sigmoid and rectosigmoid regions. These smears were stained with methylene blue and upon close scrutiny revealed several ova of schistosomiasis japonicum and three adult flukes.

A skin test with cercarial antigen obtained from Puerto Rico was clearly positive in ten minutes. A raised prominent wheal with a surrounding area of erythema 3.5 cm. in diameter was evident. A saline control in the opposite arm was negative. Three individuals including the patient's wife were used as controls for the antigen and all were negative.

The adult parasites were identified by their characteristic appearance, there being two male worms and one female found. The male length was 12 mm. in one and 14 mm. in the other; the female's length was 19 mm. The widths were 0.50 and 0.52 mm. for the males and 0.4 mm. for the female. Each male had 8 oval testes; cuticula was smooth.

The ova were slightly more oval than round and of the six typical eggs even only one showed a small spinous process extending from an indentation near one end. All eggs were approximately the same size, measuring between 80 and 85 microns by 50 to 55 microns.

It is interesting to note that in no technique used for stool examination were eggs satisfactorily demonstrated but that a positive diagnosis was obtained only after smears were made by pressure swabbing the wall of the colon at various levels. This is in contrast to the results obtained by other investigators in a large series of cases involving the study of schistosomiasis japonicum. In their investigations eggs from the stool were obtained in the vast majority of diagnosed cases.

The patient was advised to report to a Naval Hospital for immediate treatment and at this time is undergoing investigation and further care at the government installation.

> When a true genius appears in the world,
> you may know him by this sign, that the
> dunces are all in confederacy against him.
> —*Jonathan Swift*

Acute Intestinal Obstruction: A Statement of Fundamental Principles*

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Until very recently all instances of acute intestinal obstruction were regarded as acute surgical emergencies. Ten years ago, when that concept was still universally accepted, the mortality from this disease at some of the foremost hospitals in the country was in excess of sixty per cent. The potential gravity of acute intestinal obstruction has in no wise diminished, yet in some hospitals, within the past year, mortalities of less than five per cent have been reported. There seems little doubt that this impressive decline can be attributed to two factors, a clearer appreciation of the basic pathologic changes produced by obstruction, and a more rational concept of therapy based upon this appreciation.

Intestinal obstruction may be high, on the proximal side of the ileocecal valve, or low, on the distal side. It may be simple, without strangulation of the bowel and without impairment of the blood supply, or strangulated, with formation of a closed loop and with vascular damage. Obstruction of the large bowel, with the exception of obstruction due to volvulus, is usually due to malignancy, is usually not highly acute, and seldom compromises the blood supply. Most acute obstructions occur in the small bowel, where most of them are of the so-called paralytic type. The majority of mechanical obstructions of the small bowel result from bands of adhesions, usually subsequent to surgery, or from strangulation of external hernias. Other etiologic factors, including internal hernia, are uncommon. High obstruction is likely to be characterized by frequent, profuse vomiting, with prompt perversion of the blood chemistry. Low obstruction is likely to be characterized by distention, with necrosis of the bowel wall, and, at a later period, a deepening toxemia.

The statement of the facts of intestinal obstruction in half a dozen sentences is, of course, an over-simplification of the problem. Nonetheless, the exposure of the bare bones of the subject, so to speak, serves to put the disease into the proper therapeutic perspective. To speak categorically, in simple high obstruction the chief therapeutic problem is to bring about the resumption of normal peristalsis and to correct the perverted blood chemistry. In simple low obstruction the chief therapeutic problem is to relieve distention. In strangulated obstruction, whether high or low, the chief therapeutic problem is to prevent further damage to the blood supply by correction of the mechanical cause of the blockage. Even in the strangulated types, however, modern surgical therapy includes a period of rehabilitation, in the realization that no small part of the former high mortality of the disease was the practice of operating upon patients whose condition was such that they could not possibly have been expected to withstand a serious surgical procedure.

The decision as to the type of therapy to be employed in a given case depends upon the proper classification of the type of obstruction; that is, upon an accurate differentiation between simple and strangulated obstruction. Upon the correctness of that decision the patient's life hangs, and the physician who makes it assumes a very heavy responsibility. He must make the differential diagnosis on the basis of the history, the physical findings, and the roentgenologic evidence. Generally speaking, if the gaseous collection within the intestine is limited to the colon, the ileocecal valve is presumably competent and the fundamental pathology is a closed loop. If, on the other hand, there is evidence of gas in both the large and small bowel, the obstruction is likely to be simple, without strangulation and without impairment of the blood supply. The warning should be reiterated that the roentgenologic examination should be limited to a plain film of the abdomen; barium should not under any circumstances be given, for it could readily precipitate a dangerous obstruction in either the large or the small bowel. If the decision is that the obstruction is of the strangulating type, the condition is surgical and operation must be performed as promptly as is compatible with the rehabilitation of the patient. Complete obstruction of the small bowel is an urgent surgical emergency and operation should be carried out with a minimum of delay. Complete obstruction of the large bowel is a less urgent surgical emergency, though the statement should be interpreted merely as relative.

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*From the Department of Surgery, Vicksburg Clinic, Vicksburg, Miss.

What should be done at operation depends, naturally, upon what is found at operation. It is a safe rule, however, to do as little as is necessary to relieve the obstruction, and the rule is the more applicable the more seriously ill is the patient. The down-to-earth statement that in intestinal obstruction "every manipulation is a shove nearer the grave" still holds true, even in these days of chemotherapy and other adjuncts to surgery. If the bowel is devitalized, simple release of obstruction is insufficient, but exteriorization may be safer for the patient than immediate resection. Incidentally, a recent most helpful suggestion to determine the viability of a doubtful segment of intestine is the administration of a very high concentration of oxygen. If the bowel is viable, it will promptly regain its normal color. If it does not regain it, it should not be left in the abdomen. Another recent suggestion, useful in the occasional case in which relaxation is difficult to achieve at operation, is to administer curare by the intravenous route.

In simple obstruction emergency surgery is seldom necessary, though it cannot be too emphatically stressed that the surgeon who elects not to operate must keep the patient under constant observation and must be prepared, literally at a moment's notice, to change his plan of action from nonsurgical to surgical. If the patient does not promptly show improvement under conservative measures they should not be persisted in, for irreparable harm may be done by obstinate adherence to a predetermined course. Furthermore. the measures employed must be carried out with detailed care once it has been decided to employ them, though the decision to employ them is, as has been said, the crux of treatment.

Conservative therapy includes:

1. The absolute restriction of all fluids and food by mouth.

2. The maintenance of nutrition and of the fluid and electrolyte balance by the parenteral administration of fluids. Five per cent glucose is the most satisfactory solution, and it is given in physiologic salt solution or in distilled water, depending upon the necessities of the individual case. The amount of fluid which must be administered can be determined in relation to the output. As a general rule, an intake sufficient to secure a urinary output of 1,000 cc. of urine daily is ordinarily adequate and should not be exceeded, for it is possible to overwhelm the patient with an excess of fluids. The amount of sodium chloride administered daily must be based upon the loss of electrolytes by vomiting and other causes. An excess is even more dangerous than an excess of fluid per se. Strict individualization of each case is required. Transfusions of whole blood or plasma are given by the same strict individualization.

3. Decompression of the intestine by the institution of continuous suction, with the use of the Miller-Abbott or some similar tube. A tube of this kind, properly inserted, will practically always evacuate the small bowel, and in some cases the large bowel also. In fact, if the ileocecal valve is incompetent, the relief of distention of the large bowel by this method may be quite as dramatic as the relief of upper intestinal obstruction. In some cases decompression may also be accomplished by irrigations of sodium chloride per rectum, with the patient in the knee-chest position.

4. Various supplemental measures. Inhalations of oxygen are frequently useful. Clinical and experimental observations have shown that its use promotes the absorption of gas from the distended intestine. The heat tent or the use of hot stupes adds to the patient's comfort. Large doses of vitamin B are necessary because it is now fairly well established that the intravenous use of glucose and salt solution by vein washes out from the system large quantities of this vitamin. Finally, when gas begins to be passed per rectum and it may be assumed that normal peristalsis has been reestablished, the cautious administration of a saline laxative frequently has excellent effects.

Because so often the success or failure of the use of the Miller-Abbott tube hinges upon some detail of technique, the steps of the procedure of insertion are worth stating in detail:

The tube is lubricated with a local analgesic agent in a water-soluble base. The balloon is inflated and the tip is introduced into the stomach by way of the nose. After gastric lavage had been carried out, the tube is withdrawn until the tip is at the cardia. Then, with the patient lying on his right side or on his back, in semi-Fowler position, the tube is advanced at the rate of an inch or less every thirty minutes until roentgenologic examination shows that it is inside the duodenum. Fluids have been withheld and slight suction maintained to keep the stomach empty during the procedure.

When it has been established that the tube is within the duodenum, the balloon is inflated with water or air (30 cc.) and is advanced through the nose about five or six inches per hour, this rate being estimated as equivalent to the progression of the balloon by peristalsis. Constant suction and irrigation are now maintained, and the progress of the tube is checked by occasional roentgenologic observations.

It is extremely important that the tube should not be inserted into the nose more rapidly than the balloon advances down the intestinal tract. If the correlation is not maintained, a redundant coil will form in the stomach, which may prolapse into the pylorus, forming a kink, blocking the tube, and interfering with the further advance of the balloon. If such a coil forms it is best to withdraw the tube partially until the slack is taken up. If blockage occurs at the ligament of Treitz, deflation of the balloon for an hour or two will permit the tube to work itself past the block.

Intubation of the entire small intestine can usually be accomplished over a period of two or three days. While it is proceeding, large quantities of swallowed air and intestinal secretion may be removed by deflating the balloon and applying suction. The balloon should be deflated for an hour at a time two or three times daily.

After the balloon has advanced to the point of obstruction, localization may be accomplished by roentgenologic examination with a thin barium solution. The balloon is then deflated and constant suction continued, this being, in effect, the creation of a nonsurgical enterostomy.

The modern concept of acute intestinal obstruction has been briefly stated, and the fundamental principes of therapy have been outlined. The crux of management is the classification of the case as simply obstruction, which, with the proper allowance for rehabilitation of the patient, is an urgent surgical emergency. The remarkable reduction in the mortality of intestinal obstruction which has occurred within the last year or two can be directly attributed to the proper classification of cases, the careful application of conservative measures in appropriate cases, and the prompt resort to surgery in cases in which it is indicated.

It is possible to be a hero in the face of the great blows of fate. Death, ruin, shipwreck, can be borne with a head unbowed; in the last resort one can struggle and perish. But it is not possible to be a hero in the face of pin pricks. You can really overlook the pricking a couple of times; and then you can pretend a few more times that you didn't notice it; but when it comes to the tenth or fifteenth prick, all your heroism leaves you. Man is powerless against small pains. He can feel a kind of pride in having broken his leg, but he can feel none in having broken his finger nail. He can bear the death of his wife with fortitude, but he cannot bear it heroically when she is stupidly mean to him. He has a certain catastrophic consolation if his house falls down, but he has no consolation if his house is hopelessly ugly.

—*James Still*

The Acute Abdomen in Infancy and Childhood*

A CASE REPORT OF ACUTE GONORRHEAL TUBO-OVARIAN ABSCESS IN AN INFANT OF TWO MONTHS.

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Associate Staff Surgeon, Gamble Brothers and Archer Clinic
Greenville, Miss.

THE ACUTE abdomen is a problem of paramount concern to the general practitioner and specialist alike. Many aspects of the subject have been emphasized. Medical literature is crowded with references to etiologic factors, associated pathologic changes, alterations in physiology, the need for early diagnosis, and the therapeutic results. Until recently however, little distinction was made between the treatment of surgical diseases of the child and those occurring in the adult. It has been discovered that the mortality rates in the younger group were extraordinarily high and that, if improved results were to be expected, the child could not be treated as a diminutive man or woman. Children are not only heirs to most of the pathologic states found in older persons but also are subject to certain types of infection and congenital abnormalities which are seldom seen in the adult. In no other acute disease of the abdomen is the difference between children and adults made more clear than in appendicitis. It is the same disease, yet the response of the child to the infection is quite a different matter. It is more virulent, hence runs a more rapid and more deadly course. Further, an early accurate diagnosis is more difficult and general peritonitis occurs in a high percentage of cases. These same characteristics apply to most conditions presenting acute abdominal symptoms in children. With this in mind, whenever a diagnosis is not clear-cut, it is wise to advise hospitalization to permit adequate observation. When a child presents the triad of abdominal pain, vomiting, and fever he should be considered to have an acute abdomen until proved otherwise. In arriving at a decision, special attention must be given to obtaining a detailed accurate history and to making a careful physical examination. When this is supplemented by additional information gained through roentgenographic studies and the modern laboratory, the tragedy accompanying missed and delayed diagnosis will be minimized.

CASE REPORT

A colored infant girl, G. O. J., was brought to the pediatric department of our clinic for attention. The infant was two months of age. She had been born as a normal delivery, weighing 7 lbs., 6 oz. She had a normal growth period and had been well until two days prior to admission when she became irritable and cried more than usual. The day before admission she refused feedings and the day of admission her irritability and restlessness increased; she cried most of the time and continued to refuse feedings. She then began to vomit and did so several times. In the late afternoon her abdomen became distented, she developed a rather high fever, and appeared acutely ill when she was brought in for treatment. Review of the systems revealed no further information.

Physical examination was as follows: Pupils normal. Nose and throat negative. Ears negative. There were no palpable cervical glands. Heart was rapid but there were no murmurs. The tones were clear and forceful. Lungs were clear throughout. Inspection of the abdomen revealed a moderate sized umbilical hernia. There was grade II distention (using grades I - IV) and generalized tenderness. There were no palpable organs or masses. Rebound tenderness was marked. The child lay on her back with her knees flexed, crying, and offered resistance to straightening the limbs. There was no suggestion of rigidity of the neck. Examination of the genitals and rectum were negative. Temperature was 104 degrees (R.). Pulse 126. Respiration 28. The laboratory work revealed the baby to have 4,650,000 R.B.C., 80 per cent Hb., 22,900 W.B.C., of which 80 per cent were polymorphonuclear cells. Smear for malaria and serology were negative.

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*One of two case reports prepared for the *Mississippi Doctor*.

The lung fields were clear and the heart normal size, shape and position on the x-ray film of the chest.

The presence of obvious abdominal distress, vomiting, and fever, with distention and the other signs and symptoms made the probability of a surgical abdomen evident. I was called in surgical consultation and was able very quickly to make the diagnosis of an acute abdomen but the underlying cause was not so apparent.

Appendicitis received first consideration since it is the most common lesion requiring intra-abdominal surgery in childhood. The pain usually orginates periumbilical or in the epigastrium and may or may not migrate to the right lower quadrant. Vomiting is rarely absent in children. The temperature almost never goes over 102 degrees unless there is peritoneal irritation. The bowels are usually constipated although there may be diarrhea. Urinary symptoms are most often absent unless the appendiceal infection affects the right ureter or bladder. However, this disease is rare in the first year of life and infrequent even in the second. From then on it is very common. Ladd and Gross report a few cases at six months or younger. In the past two years I have operated upon two cases under six months for acute appendicitis. One was four months and one five months old. The leukocyte count varies between 12,000 and 20,000 of which about 85 per cent to 95 per cent are polymorphonuclear cells. The urine occasionally shows acetone but the sediment usually is negative.

Intussusception, or the telescoping of one portion of intestine into a more distal segment, is another of the important surgical emergencies in infancy and early childhood. The peak of incidence is between the third and eleventh months. Males are more frequently affected than females. The child is usually fat and healthy in appearance and this point is apt to mislead the physician if seen early. The abdominal pain is colicky, recurrent and intermittent in nature. Vomiting occurs early and it may be severe and repeated. Examination of the abdomen often reveals a sausage-like tumor and at times a feeling of emptiness in the right lower quadrant (Dance's sign). As the disease progresses the patient shows signs of shock with pallor, sweating, etc. The stools are bloody in about 85 per cent of the cases but may not appear during the first twelve hours. The amount of blood varies from mere spotting to severe hemorrhage. In some cases the intussusception may progress so far that it is palpable as a rectal mass on digital examination of the rectum.

Primary (Idiopathic) Peritonitis — In this condition there is no focus of infection within the peritoneal cavity and it presents quite a different problem of diagnosis, treatment and prognosis. The responsible organism is ordinarily either the pneumococci or the hemolytic streptococci. It, again, is essentially a disease of infancy and early childhood. Two-thirds of all cases occur in the first four years of life. The fever is high (104 - 105 degrees); there is generalized tenderness; and the abdomen is of a doughy consistency on examination. The leukocyte count is elevated. This is best treated by chemotherapy and anti-sera.

Other conditions less frequently causing signs and symptoms of the acute abdomen in infancy and childhood are bronchopneumonia, pyelitis, acute mesenteric adenitis, acute enteritis, congenital abnormalities, volvulus, black-widow spider bites and rheumatic fever.

Bronchopneumonia usually has a higher fever and there is greater elevation of the leukocytes. The respiration rate is increased and even though early examination of the chest may reveal normal sounds, it should be checked by x-ray.

Pyelitis is accompanied by a high fever and maximum tenderness over the affected kidney area. The urine sediment shows pus cells and/or red blood cells.

Acute Mesenteric Adenitis is invariably accompanied by a preceding upper respiratory infection thus a careful examination of the chest, pharynx and nose is most important. Here the abdominal pain may be general or localized to the region where the nodes are located. Adding to the difficulty of differential diagnosis is the fact that lymph nodes are most numerous and largest in the right lower quadrant of the abdomen. Nausea is often present but vomiting is rather unusual. There is but little elevation of fever. It may be absent. On examination, the tenderness is but slight and the leukocyte count is rarely over 10,000.

Acute Enteritis may be of a specific type, i.e., amoebic or it may be of a non-specific type caused by foods. The abdominal tenderness in either case is usually mild and diffuse. The pain complained of is colicky in nature.

The stool is often loose. There is one particular type of enteritis which is worthy of special mention. This is regional enteritis of which terminal ileitis is the most common. It may however involve the colon or small intestines in other places.

Gastric Ulcer which may occur at any age and has even been described in the stillborn and even in premature infants. When present they are usually asymptomatic but may cause epigastric distress with vomiting.

Black-Widow Spider Bites cause severe abdominal pain and the abdomen assumes almost a board-like rigidity. Careful inspection, especially of the genitals, will reveal the area bitten.

Congenital abnormalities as pyloric stenosis will give signs and symptoms of high intestinal obstruction coupled with those of the resultant fluid and electrocyte loss. Four-fifths of the patients are males and most are between the ages of four to six weeks of age. Frequently an abdominal tumor is palpable in the right upper quadrant and peristaltic waves are seen going from the left to the right. Another congenital abnormality which is a repeated offender is

Meckel's Diverticulum. This is present, it is estimated, in from two to three per cent of all persons. In embryonic life the intestines maintain a wide anterior communication with the yolk sac. This gradually narrows to form the tube-like vitello-intestinal duct which represents the portion of the vitelline duct which opened into the ileum. Incomplete obliteration results in a diverticulum. This is most often located from eighteen inches to three feet from the ileo-cecal valve and unlike other diverticula of the intestinal tract, is on the anti-mesenteric border. The signs and symptoms are much the same as those of appendicitis but the localization of pain is not infrequently different. There are other pathologic entities which infrequently are the cause of acute abdomen in infancy and childhood such as **congenital atresias, malrotation of the intestines**, and in very unusual cases the development of abdominal pain may be associated with an attack of **rheumatic fever.**

After careful appraisal of the case, acute appendicitis with peritoneal irritation and intussusception or volvulus were considered the best possibilities. The child was given parenteral fluids pre-operatively and the abdomen was explored through a primary right paramedian incision. The appendix was located and showed evidence of periappendiceal irritation. The appendix was removed in the usual manner. The ileum was then inspected and after exposing about two feet for inspection it was no longer free but was very securely adherent deep in the pelvis. Careful and blunt finger dissection freed the adhesion and when it became possible to expose the adherent portion of the ileum there was a mass about the size of a small plum attached to it. This, in turn, was demonstrated to be the right adnexa. The gross pathologic diagnosis was tubo-ovarian abscess. This was verified upon microscopic examination. A culture of the contained "pees" was positive for the gonococci. The abdomen was drained and the post-operative recovery was uneventful. The unusual finding at surgery, suggested an examination of the mother. This was carried out and she was found suffering from a chronic Bartholin gland infection. The purulent discharge which could be teased from the orifice of her left Bartholin gland also gave a positive stain for gram-negative diplococci within pus cells. The infant was evidently infected by her mother either at birth or in changing of the diaper.

SUMMARY

The problem of the acute abdomen has been dismissed with an attempt being made to stress the need for making distinction between this condition in the adult and in the child.

The advisability of hospitalizing children for observation, in all cases where a positive diagnosis cannot be made, has been suggested.

When a child presents the **triad** of **abdominal pain, vomiting,** and **fever**, the acute surgical abdominal must be disproved.

An unusual case of an acute gonorrheal tubo-ovarian abscess in a two-month-old colored infant is reported.

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The Mississippi Doctor

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The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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The Mississippi State Hospital Association held its annual session at the Edgewater Gulf Hotel, Miss., October 17-19 after missing one or two years during the war. A two-and-a-half-day program was carried out. This was the first meeting to be held for more than one day and the first to be held independently of the state medical association. It was considered a success. Dr. W. H. Brandon was the efficient president. A number of very able and out-of-state essayists were on the program. The hospital survey for Mississippi and the Blue Cross Insurance came in for a prominent part of the convention, with establishing of small hospitals and training nurses being discussed fully, the small hospital claiming the majority to its rescue.

Dr. Henry Boswell is the very able incoming president of the association and Dr. W. H. Parsons of Vicksburg, who has been very active in all fields of medical and hospital organizations in recent years, was elected president-elect. Miss Grace Golden was retained as secretary-treasurer. The place and time of meeting was left to the executive committee.

You will note the program of the Mid-South in this issue of the journal and you will see that it is well worth attending. The Mid-South Postgraduate Medical Assembly meets in Memphis in February. It epitomizes the latest in medicine and surgery and gives it to the busy doctor in a four-day program. Doctors, make your plans now to attend and make your reservations. The meeting is at the Peabody Hotel.

The American Academy of Pediatrics has launched a study of Child Health Services throughout the nation. The central office is in Washington, 7950 Rockville Pike Bethesda Station. The study is under the direction of Dr. John P. Hubbard aided from each state by a chairman from the membership of the academy. Dr. Harvey F. Garrison is chairman for Mississippi with Miss Barre Pritchett, executive secretary, located at 305 First Federal Building, Jackson, Mississippi.

The scope of the study is divided in two main branches: the first deals with present facilities for child health service, the second will be devoted to a study of the programs and facilities used for training in pediatrics in medical schools and teaching hospitals.

On Wednesday, October 29, Chairman Garrison called a meeting at the Robert E. Lee Hotel with all members of the academy in Mississippi invited, along with a cross section of representatives of other organizations including the medical and dental associations, the farm bureau, et al. Dr. Garrison presided over the meeting in his usual able manner and Dr. Hubbard was the chief speaker at both the luncheon and the afternoon session. Dr. Hubbard, forceful speaker in simple, direct and friendly manner, gave a fine informative address.

It is hoped that the study in Mississippi can be completed within six to eight months. It seems fitting that it go along with the hospital survey and the general medical planning program in which Mississippi is now engaged and which promises to put this state in a favorable place along with others in medical education and medical service to the people.

Wonderful progress has been made in the field of pediatrics in this state within the last few years. We have a fine group of men who are members of the academy. Dr. Harvey Garrison is not as old as some in the field, but he has been very aggressive in the organization of this specialty in Mississippi and is generally regarded as the father of pediatrics in Mississippi. It is fitting that a study be made in this important field, and it is thrice fitting for our state since we have a high ratio of babies in the rural sections of our state. Better babies mean better men and women. In the health of the people is the strength of the nation. Child health has been woefully neglected in the past. This study will be of great importance to child life of the nation, and in turn to the health of the United States.

Miss Pritchett comes to us as an able and trained person for this work. Every doctor in the state should be interested in this study and should lend a helping hand, other organizations should and will be interested. We wish to congratulate the Academy of Pediatrics in this undertaking. Let us all uphold their hands.

Dr. G. S. Bryan continues to ask for a brief history of every doctor's life and work and a picture. These biographical data and pictures are to be placed in the archives of history. It will give our state a fine medical history. This is a very important piece of work. Don't fail to respond to the request of Dr. Bryan.

The greatness of a man should be measured by the effort he puts forth against the odds, or to carry it a bit further, what he really wants to do in his heart. Recognition of the worthy practitioner in the small town would have its weight in a better distribution of doctors, but the order has been in the main to bestow honors on the specialist in the big cities.

The shortage of doctors and nurses will be with us for ten to fifteen years, it is quite certain. A better distribution of doctors would help quite a lot if it could be managed. With better hospital facilities, with a liberal percentage of veterans being cared for in the small hospital by the home doctor, and with grants for the class of patient who can not even pay for insurance, we could render much more service with the doctors we have.

CHILD CARE

GUEST EDITORIAL

Harvey F. Garrison, M.D.
State Chairman
American Academy of Pediatrics
Jackson, Miss.

Post-war planning for child care has received much attention during recent years from many organized groups and individuals throughout the country. The American Academy of Pediatrics, realizing that the responsibility for such planning rests primarily in the hands of physicians themselves, has launched the Study of Child Health Services in order, first, to gather necessary facts from which well-founded plans can be evolved, and second, to determine the extent and quality of services now available. Thus the physicians, unquestionably the ones who know what constitutes good care and who for the most part provide that care, have accepted the challenge to develop constructive plans for medical service to children.

As a means of giving impetus to the Academy Study in the state of Mississippi, Dr. John P. Hubbard, national director of the study, presented the scope, purpose and method of the survey to a group of representative professional men throughout the state at a meeting in Jackson on October 30.

The full endorsement and approval of the Mississippi State Medical Association, the State Board of Health and the State Pediatric Society have been given to the conduct of this important project undertaken in Mississippi as a part of the nation-wide endeavor to determine the true status of medical facilities available for the treatment of our children.

On of the fundamental purposes of the present study is to stimulate local groups to discover for themselves the needs of their own communities and the facilities to meet those needs. Essentially, this means the collection on a vast scale of adequate and reliable data. Although the members of the Academy are committed to carry out the task, the success of this tremendous undertaking is the responsibility of individual physicians everywhere.

To obtain a complete picture of the existing child health facilities, data will be collected by means of questionnaires (schedules) on every important aspect of pediatric and medical service. Four major categories will be studied. First, **hospital facilities**; second, **community health services**, official and voluntary;

third, **distribution, qualification**, and **activities of professional personnel**; and fourth, **pediatric education.**

The administration and conduct of the study in each state will be under the direction of the Academy state chairman, who with the help of one or more full-time executive secretaries, will organize the program and correlate all the many activities involved.

It is fully recognized that all doctors are exceptionally busy at this time and for that reason procedures for obtaining the necessary information have been simplified as much as possible. Every effort has been made to utilize available local sources, but certain essential data can be obtained only through the active participation of individual physicians. Specifically, the pediatrician will be asked to fill out a questionnaire dealing with his own training and practice; to supervise the completion of a questionnaire for one or more hospitals in his community; to send out prepared letters to designated practicing physicians informing them of the study and requesting their coöperation in obtaining information on their pediatric practice; and to assist the executive secretary in his state in discussing the program with local, professional and voluntary groups and health officers. Physicians in private practice will be asked to complete a short one-page questionnaire mentioned above concerning their pediatric practice.

This study is important and unique. It is a study by doctors of the situation in their own field of work, of the medical care received by and available to children, of existing facilities for medical care, and the education and training of physicins giving the care. It is not a survey by a lay group, a foundation, or a department of the government. Nevertheless, all of these groups are most interested in the project and are helping in many ways the group of physicians who are directing and making the study. The scope and magnitude of the study has been steadily increasing as the general purposes have been thought out and developed along detailed lines.

Indicative of the thought and planning which have been concentrated toward an accurate and complete survey, the American Academy conducted a pilot study in the states of North Carolina before extending the study throughout the nation. On the basis of the experience gained in this pilot study detailed plans have been carefully formulated and progress within the forty-six states already launched in this program indicates that "at long last" dependable factual material will be available to each state deeply concerned with planning adequate medical care for the children within its borders.

It must be emphasized that the study is in no way connected with the many plans which have been proposed for medical care, nor related to any of the federal proposals for medical care which are the center of so much present-day controversy. It is the viewpoint of the Academy of Pediatrics that the important thing is to find out on a nation-wide basis what medical care American children receive and what facilities for medical care are available. Only on such a foundation can sound and intelligent plans for the future be built.

Basic organization of the Mississippi Study of Child Health Services has been established. The seal of approval of the medical profession in Mississippi has been stamped upon this vital fact finding project. Every physician in this state has the opportunity and the responsibility of contributing conscientiously his share of pertinent information.

Through the collection of material in the three phases of the state study a measure of available health facilities in this state will become known to the medical profession. The information will serve as an index on which the differential health needs for the betterment of health facilities in each community can be determined. The data will serve as foundation stones on which appropriate state medical, health and lay organizations may build for future improvement in the youth health facilities for Mississippi.

The Southern Medical Association has just closed its fortieth session at Miami Beach, Fla., with a fine attendance. Dr. M. Y. Dabney of Birmingham, a native Mississippian, was the honored president this year. He is outstanding in his chosen profession and a high type Christian gentleman who emanates the true spirit of the Southern Medical Association. Dr. E. L. Henderson of Louisville, Ky., was inaugurated as president. He is a surgeon of outstanding ability and one of the most popular men of the nation in organized medicine. He is also president of the Southeastern Surgical Congress which will meet in his city in March of next year. Dr Lucien LeDoux, the versatile gynecologist of New Orleans, was elected president-elect with Dr. Hunter of Washington as first vice-president.

The Southern Medical under the very able leadership of Mr. C. P. Loranz did not miss a meeting during World War II, taking the view that scientific medicine should be kept liquid during the war and that it should not be rationed.

Banting's Miracles, by Dr. Seale Harris, is just off the press. We predict that this book will sell by the thousands. We will tell you more about it in the next issue.

Mississippi can, should, and will have one of the most practical medical schools of any state in the Union. Why not keep this in mind and use your influence to bring it about instead of putting a grasshopper estimation on your state and sulking with an inferiority complex? "Go forward in medicine," should be the cry.

FROM DR. BRYAN

Please use this communication as a message from me to all members of the Northeast Mississippi Medical Society whom I regretted not being with at the last meeting in Oxford. This great society had its inception in 1903. In that year the Monroe County Society was organized and I was made its secretary. For three years I struggled trying to pump life and action into this society. Realizing that failure was inevitable without increase of area and membership and with the consent and coöperation of Drs. Underwood, Carl Feemster, Sr., W. N. Reed and Richard Boyd, a meeting was held in Houston to consider the formation of a four-county society. Favorable action was taken. The mountain labored and a giant (not a mouse) was brought forth. Now twenty counties are united. Men of national judgment and reputation have told me that this society is about the best that they attend during each year. Our meetings have been, for years, held quarterly and the meetings have been held in alternating fashion in various counties. Interest in these meetings has never waned. Our programs have always been splendid. Local talent has been discovered and developed. The social feature of these meetings has never been neglected.

To all Doctors in Mississippi:

When people yet unborn study the features of the men who have made medical history in Mississippi, will your picture be missing from the honor roll that will be found in the state department of archives and history? I trust not. But if so the blame will not be mine; for months I have urged you to send your picture in. Please do this at once; for time is slipping by and it may well be that the night may come when no man can work. Pictures are coming in, but all too slowly it seems to me. It would make me very happy if they should come by the hundreds in each mail until the list should be full. I am asking but little from you. I am anxious to do a thing that is worth while for you.

I am yours truly until the curtain falls,

G. S. Bryan

QUESTIONS AND ANSWERS ON CHILD HEALTH SERVICES

Why a Study of Child Health Services?

The American Academy of Pediatrics is determined to obtain the information necessary to serve as a basis for sound recommendations in the development of adequate plans for medical care of children.

Why Undertake the Study Now in an Abnormal Period?

Bills are now before Congress proposing legislation for Maternal and Child Health. If the Academy is to be in a position to make recommendations on the basis of factual knowledge, the study must be done now and not at some indefinite time in the future. Furthermore, what is a "normal period?" Has there been one in the last 25 years?

Isn't the Information Already Available from Other Sources?

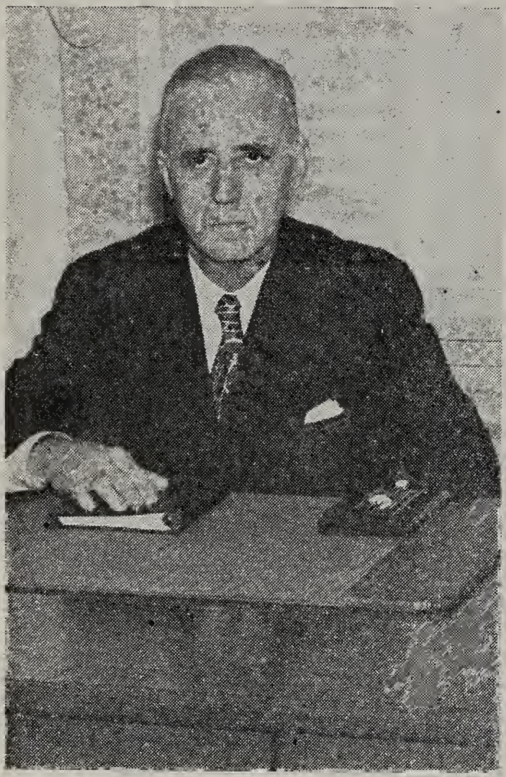
Not the detailed type of information sought. There has never been a similar study of health services for children conducted at the national level. The fact that this study is being done by physicians themselves facilitates the collection of data difficult to obtain otherwise. Furthermore, since the data are to be obtained at one time from widely varied sources, correlations of information never before accomplished are made possible.

Will the Questionnaire Method Get the Desired Information?

The questionnaire schedules have already been tested in a preliminary study in North Carolina. On the basis of experience gained in this pilot study, the questions have been revised, and to some extent retested, so that they are now considered valid. Where possible, personal visits will supplement use of the schedules.

News and Comment

VICKSBURG HOSPITAL ATTAINS FELLOWSHIP STANDARD



DR. W. H. PARSONS

Dr. Parsons advises that the Vicksburg Hospital, Inc., has been approved by the American Medical Association, the American College of Surgeons, and the American Board of Surgery, for graduate training in surgery. The men accepted for training will be given a three-year fellowship. Dr. W. H. Kostmayer, director of Graduate Medicine, Tulane University of Louisiana, announced that the Vicksburg Hospital has been given a formal affiliation with Tulane University of Louisiana in its graduate training program. The fellows of the Vicksburg Hospital will spend six months of their time in New Orleans where they will work in the department of experimental surgery under the supervision of Dr. Alton Ochsner.

This is an outstanding distinction for the Vicksburg Hospital and for the state of Mississippi since it is the first time so far as we know for a hospital to be approved in our state by these boards for graduate training. This arrangement will give the men taking advantage of it the very best type of training possible. And it marks the beginning of a new day for Mississippi in medicine also. The affiliated system in the training of nurses, interns, graduate men in medicine is now on the way and it is going to mean better doctors and more of them trained in our state and in adjoining states. The Ochsner Clinic is a beacon light for experimental medicine in the South and in the nation also. All of our forces united with medical service to all the people should be our end in view.

Dr. Parsons is also chairman of the Cancer Committee of the Mississippi Medical Association. A meeting of this committee was held at the office of Dr. Felix J. Underwood on Sept. 6, 1946, with Dr. Parsons presiding. The meeting was a very enthusiastic one with a good attendance. The drive against cancer with Dr. Parsons leading will be a success in this state.

THE AMERICAN CANCER SOCIETY

Mississippi Day of the National Convention of the American Cancer Society will be held at the Edgewater Gulf Hotel in Biloxi on November 18. At this meeting an overall picture of the important program of the American Cancer Society will be presented by those whose information on the subject is most replete.

In addition to an interesting morning session and two enlightening luncheon addresses, there will be an afternoon symposium for doctors only. Informative fifteen-minute papers will be read by Drs. John S. Harter of Louisville, Kentucky, John Dyer of Houston, Harvey Johnston of Jackson and Arthur Moore of Vicksburg; and a question period of thirty minutes following the reading of the papers will be open to all physicians. Dr. W. H. Parsons of Vicksburg, chairman of the state cancer committee, is anxious that as many as possible take part in this discussion.

The evening's banquet address will be given by Dr. A. W. Oughterson of New York.

Professional avidity for the highest service possible requires that every physician avail himself of the latest knowledge of the science of treatment offering some additional hope for the eventual eradication of this dread disease which caused 1626 deaths in Mississippi during 1945. The importance of research and education in this line cannot be too strongly emphasized. Attend this meeting if at all possible, and urge your lay friends to attend, also.

ANNOUNCEMENTS

Dr. Thomas E. Wilson announces the association of Dr. Warren M. Dilworth in the practice of Internal Medicine, 906 North State Street, Jackson, Mississippi.

Nathaniel Batson Bond, Ph.D., former consulting psychologist of Tulane, announces the opening of offices in Jackson, Mississippi, specializing in the correction of mental aberrations, individual intelligence and aptitude testing, and the prevention of the functional mental disorders.

200 North Street, Jackson 35, Mississippi.

STREPTOMYCIN

The Civilian Production Administration has released streptomycin for use in private practice. It is available from 1,600 depot hospitals established throughout the country. Physicians who wish to purchase streptomycin should contact their local hospital for supplies of this new drug.

BOOK REVIEW

PRACTICAL MALARIOLOGY, by Paul F. Russell, M.D., M.P.H. Colonel, Parasitology Division, the Army Medical School, Field Staff. International Health Division, Rockefeller Foundation (on leave); Luther S. West, Ph.D. Head of Biology Department, Northern Michigan College of Education. Major Sm. C., A. U. S. (Reserve), Formerly Entromologist, Parasitology Division, Army Medical School; Reginald D. Manwell, Ss.D., professor of Zoology, Syracuse University, N. Y., formerly Captain, Sn. C., A. U. S., Protozoology Section. Parasitology Division, Army Medical School. Published by W. B. Saunders Company, Philadelphia. Price $8.00, 660 pp., 238 illustrations, eight in color.

Malaria has been termed the greatest single threat to human health. Especially in time of war, malaria has been a serious menace. This book is dedicated to the personnel of the special field Malaria Control Organization of the Armed Forces of the United States in World War II, through whose self-sacrificing and intelligent efforts, the military hazards of malaria, so serious in 1942 and 1943, were subdued.

The manual is based on knowledge obtained by the authors largely through research and and the rich experience of the armed services. "It is designed to give clinical, laboratory, and field information about malaria, capable of being put to use in daily practice." It contains original colored drawings of plasmodia. The excellent photomicrographs are very helpful in understanding the complicated cycle of the parasite.

Then is a section dedicated to the parasite—its life cycle, morphology and physiology. Another section contains information about the Anopheline Mosquito, its distribution and bionomics. There is yet another section on the host, with the pathology, clinical aspects, and treatment of malaria. It contains helpful laboratory and field technics and the newest methods of diagnosis.

In this post-war period, civilian malaria control is of utmost importance. This up-to-date handbook will prove most valuable to both the laboratory worker and the doctor in combating this disease.

IN MEMORY

DR. DAN J. WILLIAMS

(Eulogy by Dr. J. Percy Wall delivered September 3 at Dr. Williams' funeral.)

In what is probably the greatest poem in the English language, Gray's *Elegy Written in a Country Church Yard,* the poet sings:

"Can storied urn or animated bust,
Back to its mansions call the fleeting breath?
Can honor's voice provoke the silent dust,
Or flattery sooth the dull cold ear of death?"

In the course of human events the passing of mortals from God's foot-stool is to be expected, yet when such a translation does take place a pall is cast over those left to mourn.

God, in his infinite wisdom has ordained a time to come, and in his ever-present mercy has elected a time to go. He, who sees even the sparrow's fall, knows best and does not make mistakes, for

"God's in his heaven
And all's right with the world."

Too often expressions of condolence fall far short of their intended meaning and so many times words of sympathy are empty to hearts bowed down with grief.

Posthumous glory soon sinks into forgetfulness, yet the eternal verities of a good life live long after that life has dropped into the tongueless silence of a dreamless sleep.

A survey of one's character may be biased by personal regard and lost in the maze of circumstance, yet when a real man falls there comes to the thinking mind a realization of what such a passage means.

This man has far surpassed the Biblical allocation of threescore and ten years. In the twentieth chapter of Exodus, God in the thunders of Sinai did give to that great patriarch of the Israelites the two tablets of stone, on which were inscribed the Ten Commandments, the fifth one of which was the first commandment with a promise. Doctor Williams, consciously or unconsciously in his youth, and surely consciously later on in life, kept this commandment. God kept his part of the promise and granted to him long and fruitful years. This commandment is

> Honor thy father and thy mother that thy days may be long upon the land, which the Lord, thy God, giveth thee."

The tenure of life is not commensurate with days spent, but rather in deeds wrought. That indeed is a long life that is well spent. Unto few men is given the happy faculty of combining nobility of soul with utility of accomplishment.

Life with its ever changing cycles brings experiences, some fraught with happiness and others laden with sadness. It is dear to the adolescent, buoyant with hopes of youth; it is cherished in mid-life and increasing appreciation of its responsibilities; and even precious to old age, with its nostalgia living over the years well spent.

Before mortals grand vistas spread their alluring mirages, banked by realities, the proper evaluation of which determines the difference between success and failure.

The life of Doctor Dan Williams, though silent in what we are accustomed to call death, speaks.

In the crypt of St. Paul's Cathedral in the city of London is the tomb of Sir Christopher Wren. This great man was a builder of churches and public buildings, having built churches all over London, his masterpiece being St. Paul's Cathedral. Over his tomb there is no expansive eulogy of his life, no cataloging of his achievements, no enumeration of his virtues, no date of birth or death, not even his name. In simple Latin is inscribed.

> "Stranger, if you would read my epitaph, look around."

The life of Doctor Dan Williams is his epitaph, one of service and good works to those needing his ministering care.

In youth he knew and overcame the difficulties of that period of life.

Beginning his professional life in a small community, he did well the tasks of a country doctor, for his was a high idea of what medicine should be—to him it was conceived in sympathy, born of necessity, nurtured by love and rewarded by enabling men, women and children to have longer lives for greater and better usefulness.

He was a man of keen intellect, a student with an all-consuming obligation, a rare appreciation of the weightier matters, coupled with an indefatigable energy which insured his becoming a leader among men.

His was the strictest interpretation of medical ethics, bringing to his beloved profession, consecration, preparation, ability, dignity and unfeigned interest in the welfare of his patients.

Ever did he champion the cause he deemed right, unswayed by popular trends, unmoved by the mutations of time and place, he was always in the van of organized medicine. Though zealous in his contentions he was big enough to grant his advisory the right to differ. Regardless of how much one might disagree with Doctor Williams, no one ever had the temerity to impugn his motives or to doubt his sincerity.

He could be great in little things and little in great things, and in all his dealings in medicine he was truly altrustic rather than egocentric.

Never did he seek self advancement at the expense of others. He was upright, despising and hating all that was little and mean; he was true, giving and being given in the profession he so adorned.

As a country practitioner, as organizer of the first medical society in Mississippi, the second full-time county health officer in the nation, member of the Mississippi State Board of Health, president of the Mississippi State Medical Association, member of the Council of the Mississippi State Medical Association and its chairman for many years, affairs never grew too complicated for him, because his towering strength lay in simplicity, patience, great capacity for work, an earnestness in medical progress and a firm belief that right would prevail. Always sincere, detached, clear-sighted, of unconscious courage, he never presumed to lead, but always did his counsel prevail.

As a citizen he was blessed with unusual understanding and a willingness to serve his community and state; as a husband, he was faithful and loving. At medical meetings, when he and his dear wife, known to the doctors as "Miss Maude", attended, it was remarked how ideally mated this couple was.

His was a faith fundamentally sound and in the crisis, that sooner or later all men must meet, it was all sufficient, and he could have said:

"For tho' from out bourne of time and place.
The flood may bear me far.
I hope to see my pilot face to face,
When I have crossed the bar."

Yes, Doctor Dan, we shall miss you—shall miss a judgment, that was unerring, a counsel, unfailing and a friendship, unpretending.

"Long, long be my heart with such memories filled,
Like the vase, in which roses have once been distilled,
You may break, you may shatter the vase if you will,
But the scent of the roses will hang on still."

Deaths

DR. THOMAS J. PENNEBAKER

Funeral services were held Sept. 13, at Ebeneezer Presbyterian Church near Cotton Plant for the late Dr. Thomas Jefferson Pennebaker, veteran physician of Cotton Plant, who died at his home at the age of eighty-seven. Dr. Pennebaker had been in declining health on account of his age for the past five years and had rapidly failed since last Christmas.

Dr. Pennebaker was one of the oldest practicing physicians in the state, and had actively engaged in the practice of medicine since his graduation from University of Tennessee in Nashville, Tenn., more than fifty-five years ago. Except for four years, from 1919 to 1924, when he lived at Myrtle, he had made his home at Cotton Plant. He was a native of Tippah County and he and Mrs. Pennebaker, who was the former Miss Virginia McBryde, had been married for fifty-four years at the time of his death.

Surviving in addition to the widow, are four sons, William W. Pennebaker and Thomas H. Pennebaker, both of Memphis; Charles J. Pennebaker, Murphysboro, Ill.; and Dr. David M. Pennebaker of New Albany; three daughters, Miss Mattie Pennebaker of New Albany, Miss Mary Pennebaker of Memphis and Mrs. Richard Jones of Cotton Plant. Dr. Pennebaker was the last survivor of a family of eight.

DR. W. C. CALVERT

Dr. W. C. Calvert, soon to have been eighty-two, died at his home in Union September 29. Dr. Calvert had been ill for several weeks.

Dr. Calvert was a native of Kemper County. He had been a resident of Union for a number of years where he practiced. He received his medical education at Memphis Medical College, Memphis, Tenn.

He is survived by his wife, Mrs. Fannie Calvert; two sons, Wilson and George; two sisters and one brother and a host of other relatives as well as his many friends.

DR. W. B. HOLLAND

Dr. William Bondie Holland, who for more than fifty years had practiced in Lee County, died at his home in Verona September 26.

He is survived by his wife, two sons, Max L. Holland of Fairfield, Ala., and Harry Holland of Memphis; and two daughters, Mrs. Ed West of Verona and Mrs. L. W. O'Bannon of Memphis.

Dr. Holland was born at Bryce's Crossroads on June 27, 1872, the son of Henry Lawrence Holland and Julia Ann Holland. He was reared as a member of the Presbyterian Church. He graduated from the Tennessee Medical College and served his interneship at Vicksburg. Later he did graduate work in New York.

Beginning his practice in 1891, Dr. Holland first served in the Birmingham community, then in Saltillo. For the last twenty-two years he had lived at Verona.

DR. A. F. WICKS

Dr. A. F. Wicks passed away on September 19 in a Memphis hospital following a prolonged illness. He was sixty-seven years old and had practiced his profession for thirty-nine years, thirty-five of which had been spent in Okolona.

Dr. Wicks was a member of a prominent Mississippi family, being a son of John C. Wicks and the late Georgia Bumpass Wicks of Aberdeen. He was born and reared in that city. After completing the public schools he was graduated from Tulane University, where he was a member of DKE social fraternity, and received his degree from University of Tennessee School of Medicine. He began his practice in Wren in 1907 and came to Okolona four years later. He was a devout member of the Church of Christ and was active in all civic and social circles of the community. His clever repartee and sense of humor were outstanding and his witticisms are often quoted. Although widely recognized as an eminent physician, Dr. Wicks was best known and loved for his loyal friendship, his acts of kindness and deeds of charity.

Soon after the outbreak of World War I Dr. Wicks enlisted in the Army Medical Corps. He served overseas for more than a year and attained the rank of major. He was awarded the Purple Heart for wounds suffered at Chateau Thierry, and the Silver Star, third highest award possible for gallantry in action.

Dr. Wicks was twice married. His first wife, the former Bert Terry of New Orleans, the mother of his two children, died in 1912. In 1915 he married Annette Cole, who survives him. He is also survived by a son, Armon French Wicks, Jr., of New Orleans, a daughter, Mrs. Blackmon McRae of Cincinnati, his father and his step mother of Aberdeen, a brother, Orville Wicks of Hollandale, two grandchildren, Jan and Bert Errol McRae, of Cincinnati, to whom he was deeply devoted.

DR. D. B. STEVENSON

Dr. Daniel B. Stevenson, 72, prominent physician and surgeon, owner and operator of the Lumberton City Hospital, died August 26 after several years of ill health from injuries sustained at the hands of a negro on May 12.

Circumstances surrounding the assault on Dr. Stevenson occurred when an allegedly drunk negro, Sammie Walker, entered his hospital, engaged in an altercation with his wife, a patient in Dr. Stevenson's hospital, and the physician attempted to protect the negro woman. The negro turned on the doctor who suffered a fractured hip and severe shock from which he never fully recovered.

Walker, who was taken into custody at the time, was under another charge. He will now face charges in connection with Dr. Stevenson's death.

A native of Nicholson, Dr. Stevenson graduated from Tulane School of Medicine in 1901, practiced in Poplarville for a short time, and came to Lumberton in 1905. He assumed management of the Lumberton City Hospital eighteen years ago.

Dr. Stevenson was a Methodist, member of the Board of Stewards and trustee of the church property at Lumberton, member of the South Mississippi Medical Society and of the Southern Medical Association. He was a member of the Lumberton Rotary club and had had a perfect attendance for over twenty years.

Survivors include his wife, Mrs. Alma Fulmer Stevenson, who assisted him in the hospital, two sons, D. B. Stevenson, Jr., Atlanta, Ga., and Mermain F. Stevenson, Baltimore, three sisters, Mrs. Nora Hall, Jackson, Mrs. Susan Halcomb, Nicholson, Mrs. Nell Hall, Lumberton.

DR. C. A. MARTIN

Funeral Services for Dr. Charles Martin, prominent physician of Terry, were conducted from the family residence on Sunday afternoon, August 25.

Dr. Martin, who had been a practicing physician in Terry for the past twenty-five years, died at his home in Terry Saturday morning at the age of sixty-six. He was born in Fort Adams, Mississippi, and practiced in Pelahatchie before locating in Terry. He attended medical school in Meridian and was graduated from the University of the South, Sewanee, Tenn., During the First World War, Dr. Martin served as a first lieutenant in the Army Medical Corps from July 14, 1917 to June 30, 1918.

Besides his wife, survivors include two daughters, Mrs. M. C. McGee, Chunky, and Miss Katherine Bell Martin, Terry; two sons, Lt. Charles A. Martin of Merchant Marines, and Lawrence Edward Martin of Terry; one sister, Mrs. A. S. Johnson of Jackson; and two half-brothers, Howard Seidenspinner of Jackson and Lawrence Seidenspinner of Monroe, La.

Interpreting Medical Literature

DERMATOLOGY

TREATMENT OF CONGENITAL AND OF ACQUIRED SYPHILIS IN INFANCY AND IN CHILDREN BY PENICILLIN—Neilson, Arthur W., Chard, Frederick H., Klingberg, W. G., Hanchett, Leland J., Gabby, William H., Rodriquez, Jack and Watkins, Carleton—Archives of Dermatology and Syphilology, 53: 625 (June) 1946.

"For the past two years syphilis in adults has been treated with penicillin, and at the present time it is thought that this form of therapy has been encouragingly successful. Sixteen months ago, several of the writers became interested in the possibility of treating babies and children with congenital and with acquired syphilis with penicillin. As penicillin is less toxic than arsenicals and heavy metals, it was felt that an effort should be made to determine whether its therapeutic efficiency was comparable to that of arsenicals and heavy metals.

In the past 16 months, the writers have treated 39 syphilitic children with penicillin. Eleven of these had acquired syphilis, and 28 had congenital syphilis. There has been one death in the series and three mild reactions. Total dosages of from 500,000 units to 4,800,000 units have been used. However, as recent articles have pointed out, probably the larger doses are more efficacious. The average dose for adults has been 1,200,000 or 2,400,000 units, and the latter has seemed the better. The writers' average dose for children now is 1,200,000 units, and if the weight dose relationship of children is comparable to that of adults, certainly the children are receiving many times the average adult dose.

There were 21 cases of congenital syphilis and 7 cases of acquired syphilis.

The patients with congenital syphilis varied in age between 2½ months and 9 years. The larger proportion were less than 1 year of age. Those with acquired syphilis varied from 5½ months to 10 years of age. All were previously untreated.

Thirteen of the patients with congenital syphilis were in the infectious stage. In 5 of these 13 spirochetes were observed on darkfield examination. In all cases a diagnosis of syphilis in the mother was established. For the other 8 patients with congenital syphilis, a diagnosis was established by serologic changes, roentgenologic evidence of osseous syphilis and other stigmas in addition to the establishment of the diagnosis of syphilis in the mother.

For the 7 patients with acquired syphilis, the diagnosis was established by the presence of positive darkfield condylomas in 3 cases, typical chancre in 1 case, morphologically typical secondary lesions in 2 cases (in 1 of which spirochetes were found on darkfield examination) and a valid history and serologic reactions in the seventh case.

The authors state that eleven of the 39 patients have been treated so recently that they cannot be reported at this time. The reportable series, therefore, consists of 28 cases which have been followed for a minimum of two months after treatment.

Early investigators on dosage used as a base line a total dose of 20,000 units of penicillin per kg. of body weight. This corresponded to a 1,200,000 unit total dose for an adult. More recently a medical directive issued March 24, 1945, by the Venereal Disease Division, United States Public Health Service, recommends a total dose of 40,000 units per kg. of body weight.

Early experience led the writers to feel that smaller total doses were inadequate. The first patients were treated with a total dose of 500,000 units. Serologic response was unsatisfactory, the titer showing an initial rapid drop followed by a great increase in 10 days and remaining at a high level maintained for 30 days. The writers therefore administered another course of 500,000 units, with no appreciable serologic response. A third 500,000 units, however, given two months after the initial therapy, was followed by a complete reversal of the serologic response. This patient had a diagnosis of florid secondary syphilis. A second case was similar in serologic response and type of treatment. Accordingly, the total dose has ranged from 80,000 to 300,000 units per kg. of body weight, the majority of the children receiving an average dose of 100,000 to 125,000 units per kg. They say time alone will decide whether these larger doses are more effective than the smaller doses hitherto used.

The authors state that the total dosage was determined by two factors: (1) available penicillin, and (2) an effort to determine an effective weight dose relationship. Experimentally in 2 cases a 1-hour interval was resorted to; in 1 case a 2-hour interval and in 1 case a 4-hour interval was used. In all other cases the patients were treated with a 3-hour interval between treatments. The individual dose varied from 10,000 (average) to 25,000 units. Some of the infants were given injections of 2,500 to 5,000 units, to minimize the possibility of a severe Herxheimer reaction.

They also state that these children have been followed to date at monthly intervals whenever possible. Several of these children live in remote communities, and it has been difficult and sometimes impossible to obtain a satisfactory follow-up.

The authors concluded that it is far too early to attempt any conclusive evaluation of the role of penicillin in the treatment of syphilis in children. However, certain striking effects on the child and on the disease are apparent:

1. The spirochete disappeared rapidly from local lesions, within four to eight hours no viable organizms being found.
2. The lesions healed rapidly and completely. Snuffles cleared rapidly but not as rapidly as cutaneous and mucous membrane lesions.
3. In the writer's 3 cases, syphilitic periostitis disappeared clinically in approximately one month, and serial roentgenologic studies showed decided and progressive healing in two to three months. In three months no evidence of bony syphilis could be found.
4. Herxheimer reactions occurred in 9 instances.
5. Progressive decline in serologic titer was noted in all but one case in this series. In this one case, the titer declined at first but has remained stationary for several months. In this instance, treatment may have to be classed as failure.
6. There was a definite improvement of the child's nutritional state both during and after penicillin therapy.
7. The therapy did not interfere with the taking or retention of foods in infants.
8. In no case was infection at the site of injection observed.
9. Initial changes in the spinal fluid findings were encountered in two cases. In one of these a post-treatment spinal fluid examination was made. The serologic reaction of the spinal fluid in this case had declined from 20 to 4 Kahn units. The colloidal gold curve, total protein level and cell counts both before and after treatment in this case were within normal limits.
10. There were no evidences of a Milian reaction or secondary fever.
11. In no case was an allergic reaction seen. One fatality occurred in this series. It has been difficult to evaluate this case or to state positively whether death could in any way be ascribed to the anti-syphilitic therapy with penicillin."

COMMENT: This article is just one of many papers giving the different techniques in the administration of penicillin in the treatment of congenital or acquired syphilis in infants and children. The efficacy of such treatment seems to have been pretty thoroughly established. Certainly it simplifies the old treatment a great deal. It has been our practice for some time to treat such cases with penicillin.

To prevent errors in diagnosis, it should be a routine practice not to make a diagnosis of pneumonia, bronchitis, asthma, pleurisy, chest cold, catarrhal fever or grippe without first considering the possibility of tuberculosis. The symptoms and physical findings in these cases may be the same as those encountered in tuberculosis. To determine definitely the presence of tuberculosis in x-ray and sputum examination and occasionally a tuberculin test are requisite for all these patients.

State Board of Health

Felix J. Underwood, M. D.

CLINICAL LABORATORY ADVISORY AND TRAINING SERVICE

by

H. C. Ricks, M.D.
Director of Laboratories

The Mississippi State Board of Health realizes from its own experiences that trained laboratory workers are not available and have not been during the war years. It also realizes that it is necessary for clinics and hospitals to have laboratory service if they are to render the best medical care to their patients.

For more than four years the Board of Health, in an effort to assist clinics and hospitals in improving their laboratory services, has maintained an advisory service to clinics and hospitals by furnishing them without cost the services of a competent registered medical technologist to assist their own technician with laboratory problems. Those showing aptitude and promise were awarded scholarships for special courses in laboratory technics. The more than thirty technicians who received this additional training have returned to their employers with a better understanding of the place of the laboratory in medical care and have been able to render far more efficient service. From all accounts this training program has proved very beneficial to the technician, the physician and the patient.

The State Board of Health has recently employed a well trained laboratory technician, Miss Mary Golden Means, whose services are available to clinic and hospital laboratories throughout the state to assist the local technicians with any laboratory problems they may have.

Miss Means is a graduate of Mississippi State College for Women and the Grady Hospital School for Technicians, and is a registered medical technician. She comes to the State Board of Health after two and one-half years of service in the laboratory of Dr. James E. Paullin, one of the leading internists and diagnosticians of the country. We feel very fortunate in being able to obtain the services of Miss Means for this program. At no expense to the local clinic or hospital in the state, Miss Means' services are available to assist the local technician in her laboratory problems.

Upon request of the clinic or hospital superintendent, the State Board of Health will make available four weeks of specialized laboratory training at the Mercy Hospital Laboratories in Vicksburg for any clinic or hospital technician who may be interested in such training.

The Board of Health also has a well trained technician, Miss Alida M. Bos, whose services are available to any clinic or hospital laboratory at no cost during the absence of the local technician who is sent for the four weeks special training. Miss Bos is a specially qualified x-ray technician as well as a registered medical technician. She is a graduate of the University of Iowa, a graduate nurse, and a graduate of the Mercy Hospital School for Technicians. During the period she has been employed by the State Board of Health, she has made a real contribution to the health program through her efficient service. Miss Bos has acted as advisory and relief technician for several years in many of the hospitals and clinics of the state, with real benefit to the technicians and to the laboratory servies of each institution. Any clinic or hospital desiring the servies of a technician to help their present technician or desiring to have their present technician take further training may communicate with Dr. H. C. Ricks, Director of Laboratories, Mississippi State Board of Health, Jackson, 113, Mississippi.

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WHAT THE 1946 LEGISLATURE DID FOR HEALTH AND RELATED PROGRAMS

I. General Health

a. Made it possible for the State Board of Health to expand the general health program.

b. Provided funds for establishing and maintaining full-time local health service in 17 counties without such service, as follows:

Quitman
Yalobusha
Pontotoc
Itawamba
Carrol
Montgomery
Webster
Oktibbeha
Walthall
Choctaw
Attala
Winston
Neshoba
Scott
Newton
Jefferson
Franklin

II. Special Disease Control Programs

a. Provided funds for educational and diagnostic facilities for cancer control — the program to function in close coöperation with the Mississippi Division of the American Cancer Society. Also provided funds for the hospitalization of indigent cancer cases in approved hospitals for the treatment of cancer. Such funds were made available through the Mississippi Hospital Commission.

b. Provided funds for typhus fever and malaria control activities to include:

Typhus fever

To assist communities to inaugurate a program of rat-proofing commercial buildings, to carry out community-wide rat eradication work, to improve methods of garbage and trash disposal to eliminate rat feeding and harborage places and to use DDT dust for the control of rat fleas in buildings of high rat population.

Malaria Control

To assist areas of high malaria mortality rates to conduct DDT spraying programs for the control of malaria bearing mosquitoes in homes not adequately protected against the entrance of mosquitoes; to promote improved drainage to eliminate mosquito breeding areas; to furnish advice and technical supervision to communities desiring to conduct mosquito control work; to investigate areas of high malaria rates and to make surveys regarding methods of control.

c. Provided to State Livestock Sanitary Board funds for paying indemnities (appraisal value) to owners of cattle that react to tuberculosis, paratuberculosis, and Bang's test.

d. Provided an increased appropriation to help counties control venereal diseases and to include diagnosis and treatment.

e. Provided an appropriation for the treatment of neurosyphilis.

III. Responsibility for hospital inspection

The State Board of Health was given the responsibility for the inspection of private hospitals in the state which receive money from the State Hospital Commission for the care of charity patients.

IV. Sanitation

a. Passed a law giving the State Board of Health authority to issue permits to frozen food locker plants and prescribing certain requirements that must be met.

b. Passed specific regulations regarding the harmful pollution of any waters, and regulations controlling public and private waste disposal into any of the waters of the state, and designating the responsibility of the State Game and Fish Commission and the State Board of Health.

V. Sanatorium

Passed a law to provide grammar and high school educational facilities and training for patients of educable school age being treated or undergoing physical restoration at the Mississippi State Sanatorium.

VI. Vital Statistics

Assured better birth and death registration by increase in fees paid to local registrars for gathering records.

VII. Medical Education, Hospitals and Health Centers

a. Created a Medical Education Board to consist of five members, three of whom are: the Dean of the Medical School of the University of Mississippi, the Executive Officer of the State Board of Health, the President of the State Medical Association, and two members appointed by the Governor. The Board receives and passes upon applications for loans or scholarships. The purpose of the law is to enable applicants to obtain a standard 4-year medical education which will enable them to become licensed practicing physicians and surgeons within the state of Mississippi. Physicians receiving these scholarships, upon returning to the state, will practice in communities designated by the Board.

b. Mississippi Commission on Hospital Care was created and certain duties and powers prescribed: The Commission is designated to set up and administer a statewide plan for the construction and equipping of hospitals, nurses homes, health centers, clinics, and related facilities. The Commission is to make a survey of existing hospital facilities.

c. Four-year Medical School

Created a four-year medical school as a department of the University. Provided that the time of its establishment be determined after the construction of a 350-bed teaching hospital, and "after the passage of necessary and adequate legislation therefore and the establishment and placing into operation of a comprehensive state-wide hospital program for the State of Mississippi to such an extent as in the judgment of the Commission to be appointed under House Bill 430 of the 1946 session of the Legislature to assure that, the hospitalization program mentioned herein will be reasonably assured to the people of Mississippi; and provided further that the said Commission be appointed under House Bill 430 is hereby authorized and empowered to determine by resolution spread upon its minutes when the requirements and provisions of this Act have been reasonably met."

VIII. Related Legislation

Youth Court established and "Neglected Child" defined as follows:

"Neglected Child" means a child whose parent, guardian or custodian, or any person legally responsible for his care or support, neglects or refuses when able to do so, to provide for him proper or necessary care or support, or education as required by law, or medical, surgical or other care necessary for his well-being; or who is otherwise without proper care, custody, supervision or support; or who, for any reason, and as the result of the faults or habits of anyone, lacks the special care made necessary for him by reason of his mental condition, whether said condition be mentally defective or mentally disordered; or who, for any reason, and as the result of the faults or habits of anyone, lacks the care necessary for his health, morals or well-being; or who is found in a disreputable place, or who associates with vagrant, vicious, or immoral persons.

* * * * *

DANIEL J. WILLIAMS, M.D.

1868 - 1946

In the passing of Dr. Dan J. Williams on Septmember 2, 1946, Mississippi lost a useful citizen with a long life of public service in the field of medicine and public health behind him. Dr. Williams was born in Lawrence County, Mississippi on August 16, 1868, and was educated at Mississippi College, Clinton, Mississippi, and at Tulane University School of Medicine. He was licensed to practice medicine by the Mississippi State Board of Health on April 30, 1890.

After practicing medicine for several years at Ellisville and on the Mississippi Gulf Coast, Dr. Williams was appointed Director of the Harrison County Health Department in 1915, and it is said that this health department is one of the oldest units in continuous service in the United States. He served as health officer of Harrison County for over a quarter of a century, during which period public health came to be recognized as one of the most essential services of local government. Facilities for doing this important work were often meagre and difficulties numerous. Although Dr. Williams did not have the pleasure of carrying his health work in an elaborate building surrounded by a crops of inspectors, nurses, and other public health employees, he succeeded in instituting many sanitary reforms and improvements which contributed to the welfare and progress of Harrison County. He is credited with having instituted modern methods of disease reporting in his county at a very early period. Public health will miss Dan Williams and as it continues its march to further achievements, it will not forget the groundwork he has laid to help make such achievements possible.

Besides serving in the capacity of health officer, Dr. Williams was an ardent supporter of organized medicine. He had served as councilor of the Mississippi State Medical Association since 1903, with the exception of the years 1911-12, when he served as president of the Association. He was a member of the State Board of Health from 1908 to 1912.

Woman's Auxiliary

NORTHEAST MISSISSIPPI AUXILIARY

The members of the Northeast Mississippi Auxiliary were entertained by the wives of Oxford physicians October 10 in the second quarterly meeting of the two groups, North Mississippi and Northeast Mississippi Thirteen Counties. These auxiliaries consolidated in the spring when the two medical groups combined.

The meeting was presided over by Mrs. V. B. Harrison in the absence of the president, Mrs. T. H. Rayburn of Pontotoc. Mrs. Stanley Hill, state president, brought greetings and discussed plans for the Auxiliary year.

Guests were served in the University tea room concluding the meeting.

EXECUTIVE BOARD MEETING

Mrs. Stanley A. Hill of Corinth, president of the Woman's Auxiliary to the Mississippi State Medical Association, called a meeting of the executive board Oct. 3, at the Robert E. Lee Hotel in Jackson.

The following members were present: president, Mrs. Stanley A. Hill, Corinth; president-elect, Mrs. S. B. McIlwain, Pascagoula; first vice-president, Mrs. W. H. Cleveland, Tupelo; recording secretary, Mrs. P. R. Greaves, Jackson; parliamentarian, Mrs. W. C. Pool, Cary; research and romance of medicine, Mrs. John B. Howell, Canton; legislation, Mrs. J. K. Avent, Grenada; education, Mrs. Hugh Johnston, Vicksburg; corresponding secretary, Mrs. J. G. Thompson, Jackson; councilor, Fourth District, Mrs. Edgar Giles, Gunnison; councilor, Fifth District, Mrs. George Riley, Jackson; councilor, Seventh District, Mrs. E. W. Green, Hattiesburg; councilor, Eighth District, Mrs. A. B. Harvey, Tylertown; past-president, Mrs. E. C. Parker, Gulfport; past-president, Mrs. H. C. Ricks, Jackson; past-president, Mrs. L. J. Clark, Vicksburg.

Reports from those attending were heard and work for the coming year outlined.

During the luncheon hour the group was addressed by Dr. Felix J. Underwood, member of the Advisory Council, his subject being "Medical Scholarship Program for the State of Mississippi."

URGES ORGANIZATION

If we are to go hand-in-hand with our husbands through life, surely we should not have to be asked to join the Auxiliary, the organization that goes hand-in-hand with the State Medical Association. We should consider it a privilege to be a member of our county and state organizations.

Dr. Avent, president of the State Medical Association, has set a high goal for us this year of 100 per cent membership. Why not? Surely every doctor's wife should be a member.

What are we going to do about it? Are we interested enough in our husbands' profession, which we think is the most noble profession on earth, to want to coöperate with him and the other doctors and their wives of our state and nation in upholding the principles for which the medical profession stands?

Never has there been a greater need for the medical profession to stand united against sinister legislation that confronts us.

If you have an auxiliary in your county and you are not a member, please don't neglect this most important privilege any longer. If your county is not organized, please talk it over with the other doctors' wives and write or see your district councilor or write me, and we will be glad to assist you in perfecting an organization.

We cannot accomplish very much unless we are informed, and we receive much of our information through the *Bulletin*, our Auxiliary magazine, which costs only $1.00 per year. If you are not receiving the *Bulletin*, subscribe today. Not only every Auxiliary member but every doctor's wife should receive and read the *Bulletin*.

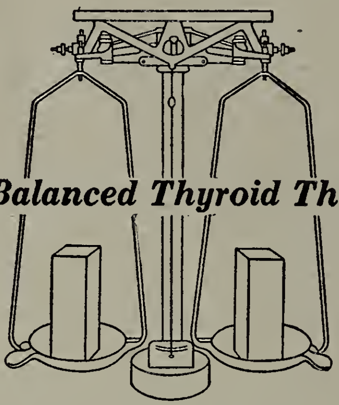
Mrs. S. B. McIlwain, President-Elect
640 Columbus Drive
Pascagoula, Mississippi

V

U.S.P. THYROID
PLUS
VITAMINS

WARREN-TEED

VITAROID



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False Positive Serologic Tests for Syphilis in Non-Syphilitic Individuals*

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MASS SEROLOGIC testing for syphilis is being used more widely each year by communities and industry to uncover unsuspected syphilis. Many states require premarital serologic tests for syphilis, and some require prenatal tests also, increasing the use of sero-diagnostic tests for syphilis many fold. The properly performed serologic test for syphilis (hereinafter to be referred to as the S. T. S.), is one of the most reliable laboratory procedures known to medicine; however certain limitations must be placed upon it since it is known not to be a specific test for syphilis alone. Among the diseases prone to give rise to positive tests for syphilis are malaria, leprosy, infectious mononucleosis, non-syphilitic spirochetal diseases, and upper respiratory infections. In addition smallpox vaccinations[1], serum administration, hepatitis, and donors of multiple transfusions[2] may also reveal a positive S. T. S. frequently enough to cause considerable concern to the clinician.

A group not previously mentioned concerns those non-syphilitic individuals who for some unknown reason have reagin circulating in the blood which gives rise to a positive S. T. S. These individuals are known as "biologic false positive reactors" and constitute a small but sufficiently large group to keep the syphilologist always alert to detect their true status. As a rule the amount of reagin circulating in the blood of such individuals is usually small so that quantitative serologic tests are low in titre but it is also true that very little disturbance in normal body functions may be enough to give rise to definitely positive tests for syphilis, and the unsuspecting physician may begin anti-syphilitic treatment.

When one considers that in the routine performance of the S. T. S. one is dealing with antigenic substances which are non-syphilitic in nature, perhaps one possible cause for false positive reactions can be more easily understood. The Treponema pallidum has not been cultured since the time of Noguchi, and use has made in most standard serologic procedures in syphilis of non-spirochetal beef heart muscle which is capable of producing flocculation or fixation of complement when introduced into serologic systems containing syphilitic serum. This possible source of error has been extremely difficult to surmount, but attempts have been made by using strains of spirochetes closely akin to Spirocheta pallida of syphilis and thus introducing a more comparable antigen. In addition numerous "verification procedures" have been devised, some by utilizing temperature change effects, and others by varying sensitivity of the reaction, but to date no "verification test" can be said to be any more reliable than a standard serologic test properly performed in an accredited laboratory. Promise of help in this respect is held forth by a new fractionation of serum protein procedure being developed by Dr. Hans Neurath[3].

Despite the many difficulties encountered in the sero-diagnosis of syphilis, much can be done to avoid the too frequent error of diagnosing syphilis in the non-syphilitic individual. When an individual presents a positive S. T. S. and no obvious confirmatory evidence of syphilis is found the following steps will do much to arrive at the correct diagnosis:

1. Complete history, with particular reference to recent illness, innoculations and previous manifestations of syphilis.
2. Sex-contact history with possible examination of contacts.
3. Complete physical examination, with emphasis on nervous system, cardio-vascular system and stigmata of congenital syphilis.
4. Repeated serologic tests for syphilis, utilizing complement-fixation (Wassermann) and flocculation (Kahn, etc.) technics.
5. Quantitative serologic tests.
6. Fluoroscopy of heart and aorta.
7. Spinal fluid examination.
8. Heterophile antibody reaction for infectious mononucleosis.

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Reference is made in the list above to repeated serologic tests with the primary purpose of eliminating laboratory and personal error, and confirming one technic by another. Frequently it is noted that a flocculation test is more sensitive than usual complement fixation tests, and the former is often reported positive when the latter, or Wassermann test, is negative. When several different tests are used simultaneously, sometimes called a "battery of tests", reports will be easily singled out as possible false-positive reactions because of their obvious lack of agreement. On the other hand it is of dubious value to send specimens of sera to be tested to several different laboratories, since laboratories notoriously differ one from the other in technic and personnel, and as a rule can do little but serve to make confusion more complete. It is advisable to find a single accredited laboratory which is known to keep careful checks on technic by comparison with other serologic laboratories, and to accept the reports with confidence acquired by long usage.

The quantitative serologic test for syphilis is of inestimable value in evaluating the possible false-positive S. T. S. since most nonsyphilitic positive reports are initially low in reagin titre, and repeated observations show a decline toward negative from month to month. The reverse is often true of syphilitic serum titre. As a rule false-positive reactions become negative in three months or less, and the true syphilitic serum either remains about the same in titre, or increases. In addition the quantitative S. T. S. is invaluable in following the course of treatment in syphilis both in determining the effectiveness of treatment and as a warning of impending relapse. It must be used to determine the status of a new-born child of a previously treated syphilitic mother, if the cord Wassermann test is positive.

The following case reports are typical of false-positive serologic reactions:

Case 1 — Mrs. K. L., married female, white, aged 37, was first seen by an internist complaining of extreme nervousness of two weeks' duration. She was also aware of pain in the right lower quadrant and of "chilly sensations." History revealed frequent bouts of fever diagnosed "malaria" over a period of fifteen years. Six years before being seen she had a negative serologic test for syphilis, and eight months before both the patient and her husband had negative serologic tests for syphilis. There was no history of syphilis. Initial examination revealed a tubo-ovarian mass in R.L.Q.; and was otherwise normal. Kahn was positive on 9-18-46 and 9-23-46. Blood smear was positive for tertian malaria on 9-19-46.Quantitative Kahn test performed 9-24-46 revealed Kahn: Doubtful 1 unit. Patient was considered to have a false-positive serologic test due to malaria, and patient was started on course of atabrine. S. T. S. repeated to 10-10-46 revealed Kahn: doubtful. On 11-3-46, one week after atabrine therapy was discontinued the Kahn was reported negative. The patient was then given clearance for operation for tubo-ovarian mass. No antisyphilitic therapy was given.

Case 2 — W. F., a 20-year-old white college student, was found to have a positive Kline test upon routine serologic test when he returned to school after two years in the Navy. He admitted exposure by sex contact within six months but he gave no history of any lesions, past or present, or intercurrent illness. The blood S. T. S. was repeated one week later with the result of Kline: positive. Wassermann, Kahn, and Mazzini: doubtful. A quantitative test performed one month later revealed a doubtful Kahn and Mazzini test in undiluted serum, and a positive Kline test in 1-2 dilution, doubtful in 1-4 dilution. The cardio-lipid test was negative. On April 12 a complete physical examination was normal except for mild inflammation of the pharynx, and acne of the skin. There were no stigmata of syphilis present. A spinal fluid examination performed that date was completely normal. On May 2 quantitative Kahn, Kline, and Mazzini tests were negative. Special test, (Neurath) for differentiation between false-positive and syphilitic sera was confirmatory of a false-positive reaction.

Case 3 — R. M., a 32-year-old white college instructor, was under the care of his physician because of a recurrent colitis of unknown cause. During hospitalization complete physical and laboratory studies were made and blood serologic tests for syphilis revealed doubtful Wassermann; positive Kahn; positive Kline; and doubtful Mazzini and doubtful tests upon repeated examinations. No febrile period was known to have occurred either before or during hospitalization. All laboratory procedures were within normal limits including the heterophile antibody reaction. Quantitative tests revealed a positive Kahn 1-2 dilution, a negative Kline test, and a doubtful

Mazzini test in undiluted serum, Two weeks after the attack of colitis had subsided, all serologic tests were negative. One month after the initial serologic tests were performed, repeat quantitative serologic tests were negative, and special tests (Neurath) for serologic false-positive reactions were reported negative.

Case 4 — E. B., an 18-year-old white girl was found upon routine serologic tests on entering the university. to have a positive blood Wassermann and Kahn test. This was repeated in one week and again the Kahn and Wassermann test was positive. Careful history and physical examination revealed nothing suspicious of syphilis, and an intact hymen was found. Quantitative tests revealed a positive Kahn test 1-4 dilution, doubtful Mazzini test, and doubtful Kline test in undiluted serum. The heterophile antibody reaction was positive 1-28 dilution which was considered within normal limits. Shifting positive and doubt tests were found during the next three months and at no time during that period were all tests negative. The patient's only living parent was carefully examined and found to be free of any suggestion of syphilis including negative serologic tests. A spinal fluid examination, x-ray of the heart and great vessels were normal at the end of the fourth month, and following these procedures all serologic tests on the blood for syphilis were negative, and the heterophile antibody test was negative.

The frequency with which one may expect a false-positive serologic report varies widely. The laboratory employing routinely a highly sensitive type of test generally reports more false-positive reactions. The Wassermann test performed by the Kolmer technic is inclined to reveal fewer false-positive reports. but this is by no means indicative that this test is "better." If all possible sources of error are combined, including laboratory error, personal error, inherent false-positive reactors and false-positive tests due to temporary illnesses, the percentage of false-positive S. T. S. is probably less 1 per cent[4]. In 100 patients this is not a great problem, but when mass testing is done in an area where syphilis is less common the number of errors made becomes vastly more important.

"Once a treated syphilitic, always a syphilitic" is axiomatic among syphilologists. The real need for care is to prevent the needless treatment. and branding of the patient committing him to lifelong worry because of syphilis. It is therefore advisable that treatment for syphilis be withheld until the diagnosis is well established, and that the use of provocative tests and therapeutic tests be abandoned as diagnostic measures. It is known that only an injection or two of an anti-syphilitic remedy may reverse a positive S. T. S. to negative, thus creating considerable confusion in determining the true status of the patient at a later date.

The layman's view of syphilis as a disease is distorted, and to avoid the possibility of developing a severe syphilophobia, it is advisable to avoid the use of the term "syphilis" while investigating the nature of serologic S. T. S. The physician may obtain repeated serum specimens for study under divergent pretexts without difficulty.

SUMMARY

1. The false-positive serologic test for syphilis is increasingly important as mass serologic testing becomes widely used.
2. Careful history taking, physical and laboratory studies, including spinal fluid examination and roentgenograms, are needed when there is doubt in the diagnosis.
3. The quantitative serologic test is of great value in aiding in the discovery of false-positive reactors.
4. No widely used "verification" test is as yet of incontestable value in distinguishing between true and false positive tests for syphilis.
5. Every means to avoid the development of syphilophobia should be used in the investigation of patients having positive serologic test for syphilis of doubtful origin.

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Diseases Involving the Tongue*

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THE TONGUE, embryologically, is a pharyngeal derivative — a "mucous membrane sac which becomes stuffed with skeletal muscle." The mucosa of the body or apical half arises from three primordia; the paired lateral swellings of the first or mandibular arches, and from the median somewhat triangular tuberculum impar which forms the pharyngeal floor between the first pair of branchial pouches. The mucosa of the root arises from a median ventral swelling, the copula, formed by the union in the midline of second branchial arches. It receives some tissue from the third and fourth arches as well. The mucosa of the apical half is papillae bearing; that of the root becomes infiltrated by lymphoid tissue. The body and root are demarked from each other by the sulcus terminalis.

The tuberculum impar forms the posterior medial portion of the apical half and is in contact and continuity with the copula. Between these two is the point of origin of the thyroid diverticulum which becomes depressed into a pit and forms the foramen caecum. The paired lateral swellings of the first arches increase in size, at first fuse with the tuberculum impar, then grow rapidly and outstrip it. Simultaneously, there is a slipping forward of the entire mucosa of the tongue. During this time, the tuberculum impar is fixed at the foramen caecum while it is tending to be overgrown anteriorly and laterally and overlapped posteriorly. Because of the eventual V shape of the sulcus terminalis, there seems to have been fixation of the central portion of the root as well. Consequently, the tuberculum impar does not appear in the adult tongue.

The blood supply of the tongue is derived from the lingual artery and its branches.

The anterior portion of the tongue receives its nerve supply for taste from the chorda tympani nerve, while the lingual nerve is its nerve for ordinary sensations. The posterior third is supplied by the glossopharyngeal nerve for both taste and ordinary sensations.

The hypoglossal is the nerve of motion for the entire tongue.

One interesting fact, often overlooked, is that a portion of the posterior third is supplied by a branch from the superior laryngeal nerve. It is because of this fact forceful depressions of the tongue with the tongue blade too far back often cause gagging. Rhythmic traction on the tongue has been used to control hiccough through the same mechanism.

The tongue is abundantly supplied with lymphatics which anastomose freely; thus the fact that cancer of one side may be followed by enlargement of lymph nodes on the opposite side is accounted for.

The tongue is so easy to examine that it is neglected many times, and yet it often tells the story that clinches the diagnosis. It probably gives as many clues to systemic diseases as to local ones.

In man, local lesions of the tongue are mostly lesions of its epithelial covering. This very specialized membrane concerns itself with transmission of sensations to the brain. Changes of temperature, tactile sensations and registration of the four primary flavors, salt, sour, bitter, and sweet, are the function of this membrane.

The various papillae of the tongue offer a variety of conditions for harboring of infectious organisms, according to their anatomic structure. The filiform papillae are the smallest and most numerous ones; they are spread above the dorsum of the anterior portion of the tongue and give the tongue its velvet-like appearance. Histologically, they are smooth wall continuations of connective tissue which are lined with stratified squamous epithelium. The fusiform papillae are single, larger mushroom-shaped, club-shaped or wart-like elevations among the filiform papillae and have the same histologic structure. There are no cavities and no possibilities of retention in either type of papilla. The foliate papillae are two single papillae situated on posterior margin of the tongue on either side. They are elevations consisting of several folds of mucous membrane which are separated by deep fissures. A retention of infectious organisms might occur in the deeper recesses of these papilla and a pathologic process develop especially after trauma or injury due to decayed teeth.

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The vallate apillae consist of seven to twelve large elevations which are arranged in a V-shape line, separating the anterior two thirds of the tongue from the posterior third. The open angle of this line looks forward and the point of the V lies in front of the foramen caecum, which is the uppermost part of the former thyroglossal duct. Each of the papillae may be regarded as a conus, the apex of which is sunken rather deeply into the tongue; so far in fact that the base is but slightly higher than the surrounding surface of the tongue. Each papillae is surrounded by a deep circular fossa which like the papilla itself, is lined with stratified squamous epithelium containing hundreds of taste buds. The body of the papillae is formed from connective tissue, and sometimes two or three papillae are surrounded by a common fossa.

The factors which differentiate these circumvallate papillae from the others are a) the deep circular fossa and b) the opening of numerous serous glands into this fossa. These two features, both anatomic, obtain their adult structure from embryologic structure. These papillae are formed from a down growth of epithelium into the mesoderm in the shape of a ring. The down growth becomes hollowed out and there is an additional out shoot from it. The mucous glands originate in the latter branch, which also becomes hollow and serves as a duct for musous glands; all of these glands communicate with the ring. The entire papillae thus develop together with the gland. These two anatomic features unquestionably are responsible for the introduction of infection in these papillae. A comparison of such infection might be made with an infection of the skin wherein the hair follicle and contiguous sebaceous gland become infected.

Pathological conditions affecting the tongue may be classified under three groups; namely, congenital, local and systemic.

Under congenital the following have been noted:

(1) *Aglossia*: Congenital absence of the tongue.

(2) *Cleft tongue*: Congenital anteriorposterior splitting of the tongue.

(3) *Congential absence of papillae*: The filiform papillae and fungiform papillae of the tongue are either completely or partially absent.

(4) *Fissured tongue*: This is called lingua plicata or scrotal tongue. Here the tongue is larger than normal causing the mucosa to become plicated. The depression in the midline is extremely deep, and in addition other deep furrows are seen over the entire dorsum. The tongue shows no induration. It is soft and pliable. Some cases are acquired and persist throughout life.

(5) *Lobulated tongue*: An extra lobe lying directly on the tongue.

(6) *Long tongue*: One of extreme length.

(7) *Lymphangiomatous macroglossia*: Progressive enlargement of tongue with small vesicles appearing on the surface. It may protrude from the mouth.

(8) *Microglossia*: Abnormally small tongue.

(9) *Partial ankylosis*: Also called "tongue tie". Here there is a shortened frenum beneath the tongue resulting in hindered mobility, protrusion and indistinct speech.

Under local pathological conditions the following hae been observed:

Name	**Etiology**	**Description**
(1) Actinomycosis	Streptothrix actinomyces	It is first a painless small lump which appears on the tongue. This increases in size and becomes a pale yellow swelling which may break down and discharge pus containing sulfur granules in which fungi are found. The whole tongue becomes hard and difficult to move.
(2) Acute diffuse glossitis	Injury caused by mechanical and chemical agents, sting from insects, poison ivy.	Abscesses form on the tongue which is red, swollen and tender. Pain on mastication and edema to fauces are associated symptoms.

Name	Etiology	Description
(3) Black hairy tongue	Streptothrix yeast and Chromogenic Bacteria Penicillium (Micor niger)	There is hypertrophy of the filiform papillae with intensification of their color. The condition begins in a small area on the dorsum. This tends to spread and recur after removal. The filiform papillae can be removed and appear as long filaments resembling hair. The tongue resembles a matted black fur. Treatment consists of shaving off the growth with a dull knife and applying a 2 per cent solution of salicylic acid or a 3 per cent iodine solution.
(4) Carcinoma		Epidermoid carcinoma forms on the sides and dorsum. In other cases there is only a small surface ulcer with induration. Sometimes the lesion is buried in the base of the tongue with little external evidence. Pain is the first symptom; later this pain is referred to the ear. As the growth enlarges, there is awkwardness in eating and speaking. Adenocarcinoma forms in the apical gland region on the lingual surface. There is a lumpy feeling in the tongue. In the early stage surgical removal may produce a cure; later, irradiation is indicated.
(5) Canker sores	Virus	They are small painful ulcers which may form anywhere on the tongue. There are several types. One occurs periodically in otherwise healthy adults and is probably due to an idiosyncrasy for some food, such as fish or walnuts. Until the offending food is discovered, the only treatment of value is palliative and consists of light cauterization of the lesion with Bonain's solution. This sears the endings of the sensory nerves and enables the patient to eat with comfort. A second type occurs in young women at the menstrual period. Treatment consists of the intradermal injection of smallpox vaccine. It is probable that this type is due to a virus. A third type is a simple ulcer which starts as a deep nodule, comes to the surface and breaks down; it occurs only once.
(6) Decubital ulcer	Injury of the tongue by a ragged tooth	The ulcer is definitely outlined with indurated border presenting a yellow-gray exudate on the surface. The border may become thickened and form a crater.
(7) Geographic tongue	Unknown	The condition starts as a white spot which heals on one side and leaves a white crescent-shape defect surrounding red denuded patches. They may spread or coalesce with others and are the results of desquamation of epithelium on the dorsum. This condition is also called wandering rash.
(8) Leukoplakia	Exact cause unknown. It is thought that excessive use of tobacco in chewing and smoking are predisposing factors, plus spicy foods, alcohol, poor oral sepsis, poorly fitting dentures and syphilis.	There is a glistening white, hard,roughening of the epithelium on the dorsum. The condition is painless. In advance cases cracks are liable to occur and movement of the tongue hindered. Large doses of brewers' yeast help sometimes, as well as dilute hydrochloric acid. Sore spots that develop should be surgically removed and examined for carcinoma.
(9) Lichen planus	Unknown etiology, associated with the skin disease	On the dorsum of the tongue are found smooth white patches which are not hard. Successful treatment unknown.
(10) Ludwig's angina	Infection in the floor of the mouth	Swollen tongue.
(11) Mouth breathers	Nasal obstruction	The tongue is white, coated and dry.
(12) Mucous cysts	Occlusion of the orifices of the ducts from the anterior glands of the tongue.	These are swellings under the surface of the tongue which extend as bluish-green vesicles which are soft and fluctuant. The gland must be dissected to prevent recurrence.

Name	Etiology	Description
(13) Neurotrophic ulcer	Injury to peripheral nerves	Erosions appear on the tongue which has a grayish surface with an undetachable membrane. This may be covered by a fibrinous exudate of yellowish color. The tongue may be painful.
(14) Paresthesia	Removal of several teeth of extensive oral surgery.	There is numbness, burning, itching, tingling, pricking, or coldness, of the tongue.
(15) Burning tongue	Rough margins on fillings, galvanic currents, psychoneurosis, anemia.	The tongue appears normal.
(16) Pharyngitis		The tongue is yellowish gray and furred.
(17) Sprue	Food deficiency, exhaustion	The epithelial surfaces of the tongue are denuded in irregularly shaped patches. The denuded areas are painful and become ulcerated in advanced cases. There is a yellowish-gray slough around the edges.
(18) Stomatitis		The tongue is furred and yellowish gray.
(19) Syphilis .	Spirochete	The chancre is painless and persistent, and may resemble a small punched-out ulcer or a papule. Within a short time it is followed by mucous patches and the typical rash on the chest and flexor surface of the arms. Mucous patches are due to swelling of the papillae. They are taller, which enables them to hold more fur or coating. They resemble islands of coating on the tongue. These are highly infectious. They are painless. The gumma occurs most often in the midline because of the fibrous tissue. A ball-like necrotic mass forms and slowly migrates to the surface, where it breaks down to form a sloughing ulcer.
(20) Thrush	Monilial organisms	They are white patches on the surface of the tongue, which is red, smooth and sensitive to hot fluids and tobacco.
(21) Tonsillitis		The tongue is coated.
(22) Trophic ulcer	Local anaesthetics	A blood blister may occur on the tongue, then desquamation of the epithelium takes place, followed by necrosis causing a circular depressed surface ulcer with grayish fundus.
(23) Tuberculosis of the tongue	Tuberculosis	The ulcer is usually seen on the tip and sides of the tongue where carious teeth have caused abrasions. The superficial ulceration is shallow, irregular in shape, violet in color, and with festooned borders. It is always secondary to pulmonary tuberculosis. Cauterization gives relief from pain but prognosis is poor.
(24) Vincent's glossitis	Vincent's organism	The tongue is covered by a detachable membrane on an inflamed surface. When the membrane is pulled away, a bleeding irregular surface is seen. There is a metallic taste.
(25) White tongue	Yeast organism, usually	A part or all of the tongue appears dull white as if cauterized with phenol.
(26) Tumors		The papilloma is the most common tumor of the tongue. It is confined to papillae-bearing area of the tongue. In appearance it resembles a wart. Upon removal, it does not return; however, in later life it should be regarded with suspicion. The fibroma is firm and round. It may be present anywhere on the tongue. Upon removal, it does not recur. Myoblastomas, rhabdomyomas, chrondromas, sarcoma, lipoma, and angioma occur but are rare. Cavernous hemangioma and arteriovenous aneursyms have been reported.

Name	**Etiology**	**Description**
(27) Glossitis Rhomboidea Mediana		Non-ulcerative, ovoid mass or plaque situated in the midline of the dorsum of the tongue just anterior to the apex of the V formed by the circumvallate papillae. Surgical removal effects a cure.
(28) Discolorations	Coffee, blue berries, blackberries, licorice, red wine, colored candy, tobacco, iron compounds, laudanum, and certain drugs.	

Systemic disorders which produce changes in the tongue are:

(1) Acromegaly	Increased activity of the anterior lobe of the pituitary body	The tongue is thick, prominent and enlarged.
(2) Addison's disease	A progressive syndrome due to a disease of the suprarenal gland.	Dark spots or streaks may appear on the tongue. These later become deep brown or brownish black.
(3) Angioneurotic edema	Disturbance of the innervation of the blood vessels.	The tongue is enlarged, light red in color with prominent papillae.
(4 Apoplexy	Cerebral hemorrhage or thrombosis.	Half of the tongue may be paralyzed resulting in indistinct enunciation and deviation to one side.
(5) Ariboflavinosis	Riboflavin deficiency	The tongue is purplish red in color and granular. There are deep fissures or desquamated areas resembling the geographic tongue. The tongue is painful and there is a burning sensation.
(6) Bromism	Bromides	There is a tremor of the tongue and sometimes salivation.
(7) Chickenpox Smallpox	Virus	The tongue is enlarged.
(8) Cirrhosis of the liver		The tongue is coated and smells like decomposed blood.
(9) Cretinism	Congenital thyroid inactivity	The tongue becomes enlarged and elongated until it protrudes from the mouth. The exposed part becomes dessicated and cracked.
(10) Cyanosis		The tongue is blue.
(11) Chronic Alcoholism		The tongue is swollen bright red and bears impressions of the teeth on the sides and tip. In some cases, the tongue may be semianesthetic and in others hypersensitive. Some tongues show ulcers along the sides and tip, and are tremulous.
(12) Blood dyscrasias	The etiology of many blood dyscrasias is not known. Among the dyscrasias are, hemophilia, polycythemia, thrombocytopenia, purpura, the leukemias, agranulocytopenia, Hodgkins' disease, and the anemias.	In polycythemia the tongue shows a bluish red color. In thrombocytopenia purpura, the outstanding symptoms are purpuric spots which are pinpoint petechiae with large areas of ecchymosis. The spots are red at first but later become purplish red. In myeloid leukemia, a black discoloration of the tongue due to submucosal hemorrhages is observed. Agranulocytopenia resembles Vincent's infection. Here the tongue is red, swollen, and painful. There is difficulty in swallowing. In hypochromic and secondary anemia, the papillae of the tongue atrophy. In pernicious anemia, the tongue shows changes described as Hunter's glossitis. There is a superficial edema, smooth glossy appearance, pallor and pain.
(13) Diabetes		The tongue is dry and has a burning sensation.
(14) Dysentery		The tongue is dry and shriveled.
(15) Foot and mouth disease	Filtrable virus acquired by contact with animals.	Small yellow vesicles are formed on the tongue. They contain a milky fluid, and are surrounded by dark red, slightly raised zones.

Name	Etiology	Description
(16) Herpes	Virus	There are vesicles on the tongue, and there is an accompanying burning and itching sensation.
(17) Hysteria		Complete diminution of sensibility.
(18) Infantile myxedema		The tongue is large, fissured, and indented, thus making clumsy movements.
(19) Jaundice		Yellow along the margins.
(20) Menopause		Sometimes burning sensation.
(21) Metallic poisoning	Lead, mercury, bismuth	Pigmentation of the dorsum by the metal. In addition, the tongue is red and swollen.
(22) Mongolian idiocy		Large, coarse papillated tongue which protrudes from the mouth.
(23) Paresis		There is a tremor of the tongue which appears as an irregular quivering movement passing over the tongue in waves.
(24) Central or peripheral nerve lesion		There is a loss of taste. Involvement of lingual nerve and chorda tympani affect the anterior end and margins of the tongue. Glossopharyngeal involvement affects the posterior portion of the tongue.
(25) Pellagra	Vitamin B deficiency	There is a swelling and redness of the tip and lateral margins of the tongue. The papillae are engorged, then atrophy. The redness is a fiery, scarlet color, due to shedding of the epithelium. When the tongue becomes denuded it has a bald, beefy appearance. The tongue is frequently fissured. There is an associated tenderness and pain.
(26) Scarlet fever	Virus	The strawberry or raspberry tongue is diagnostic. There is a desquamation of the surface epithelium, leaving a red surface with enlarged and inflamed papillae. The enlarged fusiform papillae become red and prominent and project over the white desquamations of the filiform papillae. This is the strawberry tongue. When the desquamation of the filiform papillae is completed, the granular purplish-red appearance to the respberry tongue.
(27) Scurvy	Vitamin C deficiency	The tongue is enlarged.
(28) Shock and low blood pressure		Indentations made by the teeth remains after the tongue is protruded.
(29) Typhoid fever	Typhoid bacillus	The tongue has a grayish coated fur with red borders at the sides.
(30) Typhus fever	Virus	The tongue is black and dry.

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Value of the Miller-Abbott Tube in Surgery and Case Reports*

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THE MILLER-ABBOTT tube is universally accepted today by the leading clinics and hospitals including the Lahey Clinic, Mayo Clinic, Ochsner Clinic, Guthrie Clinic, and New York Post-Graduate Hospital as indispensable in the treatment of intestinal obstruction. Its value as a diagnostic, physiologic and therapeutic instrument in association with Wangensteen suction far exceeds the original expectations of Doctors Miller and Abbott. By use of this tube the surgical profession has gained knowledge of the physiology of the small intestine that, heretofore, was unknown. In numerous Army hospitals during the war it was routine to intubate every surgical belly that was obstructed both pre-, during operation and postoperatively. It saved many, many lives in Africa, at Cassino and in the invasion of southern France.

Our experience with it has been over a period of eight years. Our first experience was at New York Post-Graduate Hospital in 1938, and it was with some fear and trepidation as we followed the progress of this long tube through the gastro-intestinal tract in a case of intestinal obstruction. Therapeutically, we were guided by the progress of the patient and not the progress of the tube. We were all impressed by his rapid recovery and the ease with which the intestine was intubated. This was beginner's luck, I suppose, for it was not long before we began to experience difficulty in the passing of the tube through the pylorus. This difficulty in the passage of the tube continued through 1941 when Dr. W. Osler Abbott presented the subject to us at a panel discussion at the Clinical Congress of the American College of Surgeons in Boston. Dr. Abbott himself was having trouble, he was putting wires, stilets, and filiforms through the tube, magnets on the abdomen to draw it through the pylorus, and placing the patient in all sorts of extraneous positions in many futile attempts to make it function 100 per cent. These difficulties are only present in the cases with peritonitis. No one stopped to consider the pathological physiology that existed. All attention seemed to be focused on just getting the tube through the pylorus by whatever means necessary. The paralytic ileus with its existing loss of muscle tone seemed to have been forgotten.

During these eight years including the vast opportunity that was offered the use of the Miller-Abbott tube in cases of generalized peritonitis in the Army and also due to Wangensteen's modern and recent classification of intestinal obstruction into clinical groups showing which ones are suitable to treatment by 1) intubation alone: *e. g.* paralytic or adynamic ileus including postoperative or occasionally adhesive bands; 2) preoperative intubation and operation: *e. g.* various types of mechanical obstruction in early stages; 3) early operation and postoperative intubation: *e. g.* strangulating obstruction as mesenteric thrombosis, hernia, volvulus and intussusception; we have reached certain definite and fixed conclusions as to what to expect from this tube.

It is imperative that we first consider the existing pathological physiology. Patience is the keynote. In intestinal obstruction with a generalized peritonitis do not expect the tip of the tube to rush right down to the pylorus and pass right on through, for you will be disappointed. It cannot possibly do it and it is no fault of the tube. In these cases we have an incompetent pyloric sphincter with regurgitation of intestinal contents into the stomach. This pressure is greater than the weight of the tube. It cannot possibly pass through immediately. One has to leave the tube in the stomach for twenty-four to forty-eight or even seventy-two hours until all the gastric contents are aspirated and the intestine has resumed some of its tone and the pylorus has become competent. Then it will pass through easily regardless of whether you use the "sinking method" or the "floating method." Harris is advocating a new single lumen mercury weighted tube; and he feels that the weight of the mercury will help it through the pylorus in the peritonitis cases. He has used it in eighteen cases of intestinal obstruction, but the two cases in which he failed to pass the pylorus were both cases of ruptured appendicitis with peritonitis and intestinal obstruction. His other sixteen cases were of the chronic adhesive type and of course the tube passed down easily in these. He has not published complete detailed case reports on all of his cases. I am sure that he is going to be disappointed in his cases of peritonitis for the difficulty will be the same, as the mercury in his tube is not going to change the pathological physiology. It, too, will only pass through the pylorus after the pylorus has become competent. He will have to be patient and wait about the same length of time to get it through the pylorus as we all have had to do with the original Miller-Abbott tube. Once the intestine has resumed a good portion of its tone and the patient begins to expel gas and fecal material by rectum, we have been using prostigmin to aid the progress of the tube in the postoperative cases of ileus where the obstruction is not complete and the diseased viscus has been removed and all drains are out. We feel that it has materially aided the advancement of the tube to the ileocecal valve.

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Except for intestinal strangulation and complete obstruction of the left colon, taking everything into consideration, I would choose the Miller-Abbott tube over immediate operation for treatment of all types of intestinal obstruction and even in these I would put the tube down for an hour or so before I laparotomized the patient. One must differentiate between a simple obstruction and a strangulated bowel. This is best done by noting the character of the abdominal pain. In simple obstruction the pain is intermittent and occurs synchronously with each contraction of the bowel. This is relieved by morphine or demerol, at least for a short while. The pain of strangulation is constant and not relieved by morphine for it is an ischemic pain due to vascular occlusion in the wall of the bowel or mesentery. This may be exemplified by simply noting the character of the aspirated intestinal contents in the lower bottle of the Wangensteen suction apparatus. Frequently, one will see blood in the aspirated contents due to hemorrhages in the mucosa of the bowel. If this is demonstrated, as soon as the electrolyte loss is replaced, by parenteral fluids, and the patient is pretty well decompressed, one should open the abdomen at once. This can easily be accomplished while the patient is being prepared. This is the only time that I would not be governed by choosing the time for operation on the progress of the patient and not the progress of the tube. Although the patient will naturally feel better and distention will be relieved by suction, if there is blood in the aspirated intestinal contents of a distended abdomen due to intestinal obstruction the operation should be done at once.

Personally, I leave the Miller-Abbott tube down during the exploration and prefer spinal anesthesia using both procaine and pontocaine, the amounts depending on how long you think it will take to do the job.

No resection of the small or large bowel for intestinal obstruction should be done without first decompressing with the Miller-Abbott tube except an obstruction of the left colon, here a preliminary cecostomy is preferable, if the obstruction is complete. Two stage resections of the right colon are no longer necessary even if completely obstructed, which they rarely are, because of fluid character of the fecal material. The old type of Mickulizc's resection for carcinoma of the right and transverse colon has been replaced by the modern obstructive resection of Rankin. No longer is the tumor allowed to remain on the abdominal wall to take the chance of a 20 per cent local recurrence in the operative site.

Strangulation is the one condition to keep constantly in mind in dealing with intestinal obstruction. It is the definite and absolute indication for surgery as soon as possible as the electrolyte balance has been restored and this can be done within an hour or so of time. High obstruction and peritonitis and infection kills the patient early for it is associated with dehydration, hypochloremia, hypoproteinemia, vascular collapse, shock and death.

In our experience the intestine is quicker intubated and in turn, as one would expect, the clinical improvement of the patient was better in the chronically obstructed cases of the new growth type and the adhesive obstruction cases. In these cases the tip of the tube passes through the pylorus easily and within seventy-two hours the tip is usually down to the site of obstruction and clinical improvement is rapid. In the cases of intestinal obstruction associated with a peritonitis it is an entirely different problem. There is an associated ileus and paralysis of the bowel wall with a loss of peristalsis which prevents the carrying of the tube down rapidly. There is a mechanical regurgitation of intestinal contents through an incompetent pylorus which makes it difficult to pass the tube through the pylorus, and we have actually seen this tube regurgitated back into the stomach after it has been passed through the pylorus in the peritonitis cases. We feel it better to let the tube lie in the stomach until all the stomach and duodenal contents are aspirated and then it will pass on through usually in eighteen to twenty-four hours after the acute obstruction is relieved postoperatively in those cases of ruptured appendix, ruptured gallbladder, perforated peptic ulcer, perforated typhoid ulcer, abdominal abscess or ruptured ectopic associated with a generalized peritonitis. A hematoperitoneum will decompress much easier.

We see no advantage of the new mercury weighted (single lumen) tube over the original Miller-Abbott. As stated previously, we feel that it is unnecessary to pass the Miller-Abbott tube beyond the ileocecal valve as obstructions of the left colon are best relieved by temporary cecostomy. Once the mercury weighted tube has passed the ileocecal valve it cannot be pulled out and it is necessary to let it pass the length of the entire gastro-intestinal tract and be extracted through the anus. One can readily see the danger that might occur in attempting to decompress a completely obstructed left colon by use of the mercury weighted tube as the tube could become locked off, so to speak, between the length of the entire gastro-intestinal tract and be extracted through the anus. One can readily see the danger that might occur in attempting to decompress a completely obstructed left colon by use of the mercury weighted tube as the tube could become locked off, so to speak, between the ileocecal valve and completely obstructed left colon which would necessitate a surgical removal of the tube. This could not happen with the original Miller-Abbott tube as the air or water can easily be removed by aspiration, and the tube pulled through the ileocecal valve.

We are not so fortunate as the fellows are in large medical centers who are able to get blood chemistry done. This should be essential in all hospitals. It is essential today to have an accurate estimation of the plasma proteins, CO^2 combining power, hematocrit and sodium chloride determinations. Roughly, if a large unit of Army plasma is given every four days, 5 per cent glucose in saline 1000 cc. three times daily, the fluid and electrolyte balance will be adequately maintained. As Dr. John F. Erdmann used to tell us, "In intestinal obstruction keep the belly down and the blood chemistry up."

After the tube has reached the ileum there is no reason why the patient cannot be given liquids orally and clamp off the tube for a while. In a very short while after the complete obstruction has been compensated for the mucous membrane, which regenerates rapidly, will soon be able to absorb food, at least liquid food. Even if the tube is not clamped off membranes absorb one-fourth to one-third of the liquid taken by mouth and this is of extreme value toward returning the intestinal tract to a normal physiological basis, as well as restoring the blood chemistry to normal.

When do we remove the tube? Naturally, the patient would like to have the tube removed as soon as possible as it is a little annoying to the pharynx and larynx, but this can usually be helped by a drop of albolene in each nostril twice daily.

It is very seldom necessary to retain the Miller-Abbott tube longer than four days. In my own personal experience we have never found it necessary to retain it longer than one week. The criteria that we have followed is, as soon as the operative removal of the obstruction has been relieved the tube slips past the previously obstructed site and the patient will expel gas and fecal material by rectum. I have gone one step farther and injected two ounces of mineral oil through the tube and recovered the oil in a bed pan in eight hours and then the balloon is deflated and the tube removed, not all at one time but gradually, over a six-hour period.

Time does not permit me to go into a detailed description of the technique of intubation except to mention the two methods, the "floating method" and "sinking method"; the latter is more valuable in keeping the tip of the tube into the duodenum and thus preventing its regurgitation into the stomach in the cases of generalized peritonitis. Patience is the keynote in intestinal intubation. Personally we prefer the "sinking method" which has proved very satisfactory in our cases, but we use water in the balloon instead of mercury.

Case Reports

These cases well illustrate the inestimable value of the Miller-Abbott tube in intestinal obstruction. These are typical examples of a large experience with hundreds of cases of intestinal obstruction in the Army and of what we have said in the foregoing remarks in regard to the case with which the tube is introduced into the duodenum in the low obstructive chronic adhesive type of intestinal obstructions.

Case No. 1, J. B. No. 17399, 66 years of age and female, was admitted to the North Mississippi Community Hospital at 8:10 P. M., March 23, 1946, with a chief complaint of vomiting. This patient had been vomiting for two days continuously with continued pain in the lower left abdomen and inguinal region. The vomitus had been of a coffee ground character and projectile. She had had no bowel movements for three days. She was given ¼ gr. of morphine and 1/150 gr. of atropine immediately but with no relief of the pain. A flat plate of the abdomen was taken first which revealed a typical step-ladder (note the x-ray) of intestinal obstruction. She was immediately intubated with the Miller-Abbott tube and connected to the Wangensteen suction. An enormous amount of gas and fecal-like material appeared in the lower bottle of the automatic suction. No blood was present. The stomach was washed out and the tube was left *in situ*. The patient's electrolyte deficiency was restored by 5 per cent glucose I. V. in saline and the plasma protein deficiency was restored by a large unit of Army plasma. Following the restoration of these deficiencies a physical examination was done which revealed the patient to have pneumonia of the right lung and a strangulated left femoral hernia (please note a strangulated hernia as this means operation immediately). The patient was taken to the operating room and under spinal anesthesia the femoral hernia was reduced and found to be strangulated at operation and femoral repair was done. On pelvic examination the patient had an enlarged uterine corpus which was only palpable after she had been decompressed by the Miller-Abbott tube. At the time of admission it was also felt that the patient had a low intra-abdominal obstruction in addition to the strangulated left femoral hernia. No attempt was made to pass the Miller-Abbott through the pylorus until the following afternoon when an x-ray was taken and the tip of the tube was found in the proximal jejunum. The balloon was inflated with water and the peristalsis of the intestine rapidly carried it down to the ileocecal valve. The patient was improved as manifested by the absence of distension in the upper abdomen but a maintained distension over the course of the colon. Two days later a barium colon enema was given and there was complete obstruction at the level of the cecum (note x-ray). The patient was returned to the operating room and under general anesthesia the adhesive band completely obstructing the right colon was divided and a supra-vaginal hysterectomy was done for a fibroid uterus. The tip of the tube passed its way through the obstructive side immediately following the division of the constricting band. The patient was returned to her room and the following morning the Miller-Abbott tube was clamped off and no distension followed. She passed gas per rectum and a small amount of fecal material. The tube was left clamped off for twenty-four hours and the patient given fluids by mouth. The tube was unclamped and no fluid returned into the Wangensteen suction apparatus. Immediately two ounces of mineral oil were given through the tube and was recovered in the bed pan six hours postoperatively. Her postoperative course was uneventful. The pneumonia which she had on admission resolved on penicillin therapy.

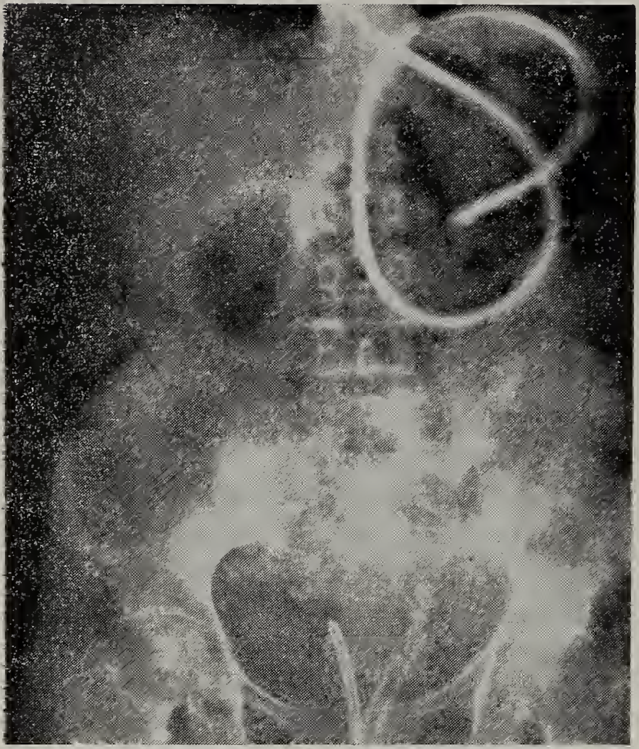


Figure I, Case 1. Scout film of abdomen showing tube passed through stomach and into small intestine.

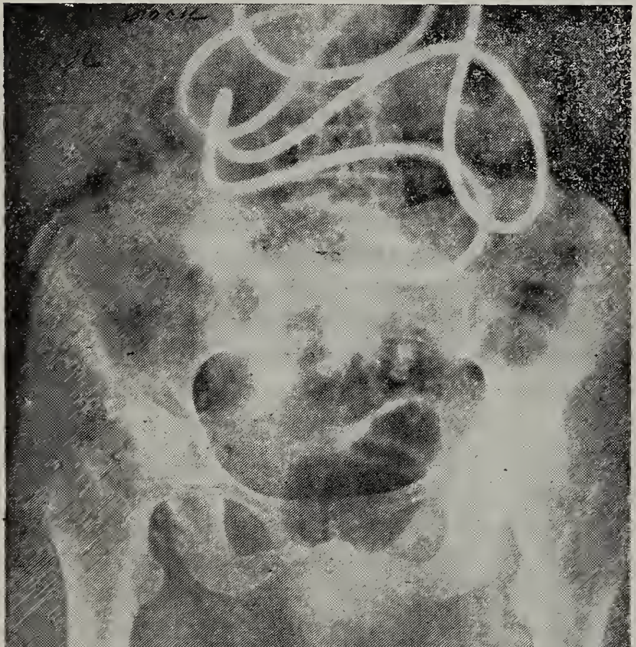


Figure II, Case 1. Scout plate of abdomen showing complete obstruction at the cecum. Distended loops of large bowel remain.

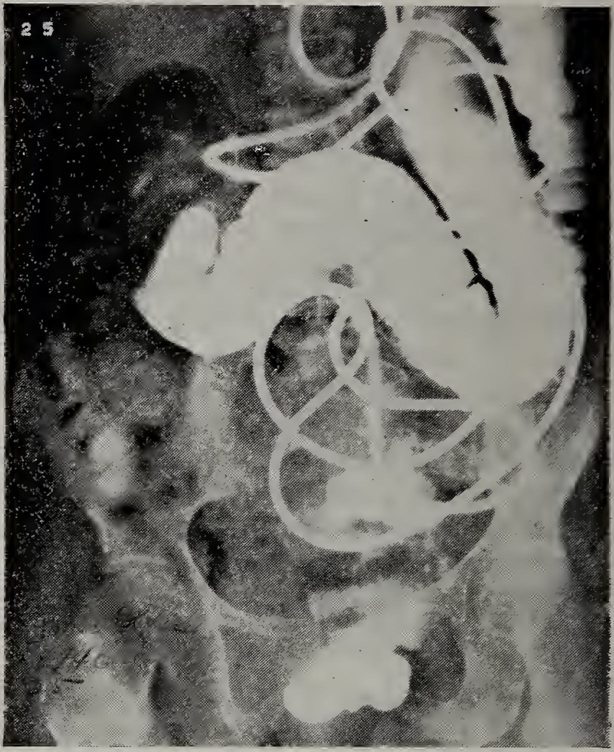


Figure III. Case 1. Barium colon enema with Miller-Abbott tube in place confirming evidence of complete obstruction at the cecum.

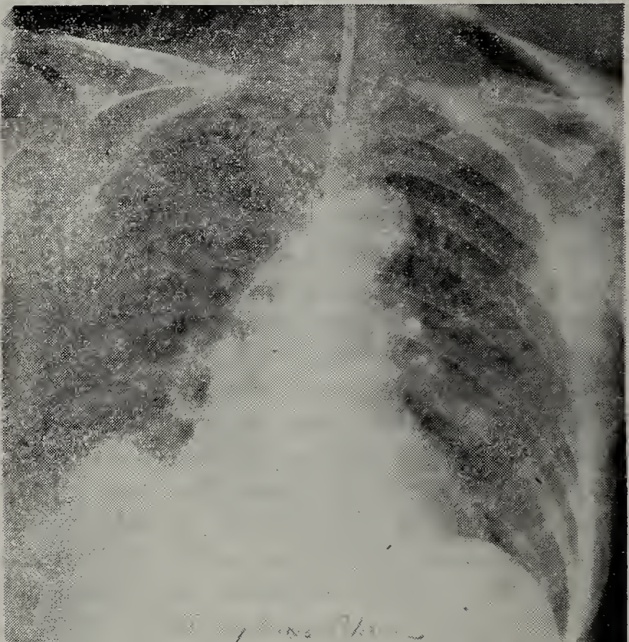


Figure IV, Case 1. X-ray of chest showing congestive heart failure and hypostatic pneumonia.

This case typifies what has been said in regard to universal use of the Miller-Abbott tube in intestinal obstruction, that it is only used in strangulation to decompress the patient while you are getting her ready to explore the abdomen. It further illustrates its utmost value in preparing the patient for operation in the low chronic adhesive type of intestinal obstruction which is not associated with strangulation. It further illustrates the value of the tube in determining the patency of the intestinal tract following operation and it is also an excellent means of administering much needed fluid orally to replace the electrolyte and plasma protein losses. The fibroid uterus was only palpable after the decompression with the Miller-Abbott tube. So it was diagnostic also in this case.

Case No. 2.

Case 18,089—White female 45 years of age admitted to the North Mississippi Community Hospital May 27, 1946, at 2:30 P.M. with a chief complaint of lower generalized abdominal pain with a maximum of intensity and rigidity in the lower right quadrant at McBurney's point. The patient became ill May 24, 1946, with epigastric pain, nausea and vomiting, while visiting in Alabama. The pain became worse on May 25, and was somewhat easier on May 26 and May 27, became worse and I saw her for the first time on that date and sent her to the hospital immediately with a diagnosis of intestinal obstruction, high and low, partial, with a peritonitis due to a ruptured appendix. A flat plate of the abdomen was immediately taken (note the flat plate of abdomen) which revealed typical findings of intestinal obstruction. She was given a hypodermic of demerol 100 mgs. which temporarily relieved the pain but the pain recurred in four hours. So she was immediately intubated with the Miller-Abbott tube, no attempt being made to pass the tube beyond the stomach. She was given glucose by vein and prepared for operation. She was carried to the operating room and a ruptured appendix with abscess formation was removed. A routine appendectomy was done. One rubber tissue drain was placed down to the abscess under spinal anesthesia. No attempt was made to progress the tube any farther than the stomach until the next morning when the sinking method was applied, introducing the tube six inches every hour. The next morning an x-ray was taken and revealed the tube to be coiled in her stomach (note the x-ray picture). Typical of the difficulty that is encountered in attempting to pass the tube early in a case of peritonitis, the tube was withdrawn back to the cardia of the stomach and introduction started again. This time we were very, very slow in passing the tube and on June 3, 1946, another x-ray flat plate of the abdomen was taken which revealed the tube to have passed through the pylorus into the intestine. The peritoneal cavity was draining freely of frank pus and the distension was relieved. On June 4 two ounces of mineral oil was injected through the Miller-Abbott tube and was recovered in the bed pan in eight hours. On June 3 the patient had small bowel movements and was expelling gas per rectum so she was given doses of prostigmin to hasten further the passage of the tube down the intestinal tract, as we felt that the obstruction was not complete and the diseased viscus had been removed. During the course of her treatment she was given the usual Ochsner treatment for peritonitis and as soon as the tube had passed through the pylorus the intravenous fluids were decreased and she was allowed to take fluids freely by mouth thus restoring her electrolyte loss and elevating her blood chemistry. The plasma protein was kept at a normal level by one large unit of Army plasma every four days postoperatively. This patient is now on a regular diet with normal bowel movements. The drainage has stopped and the wound is healing nicely.

COMMENTS

This case illustrates the difficulty which we have all had with the passage of the Miller-Abbott tube through the pylorus readily in those cases of peritonitis. Patience is still the

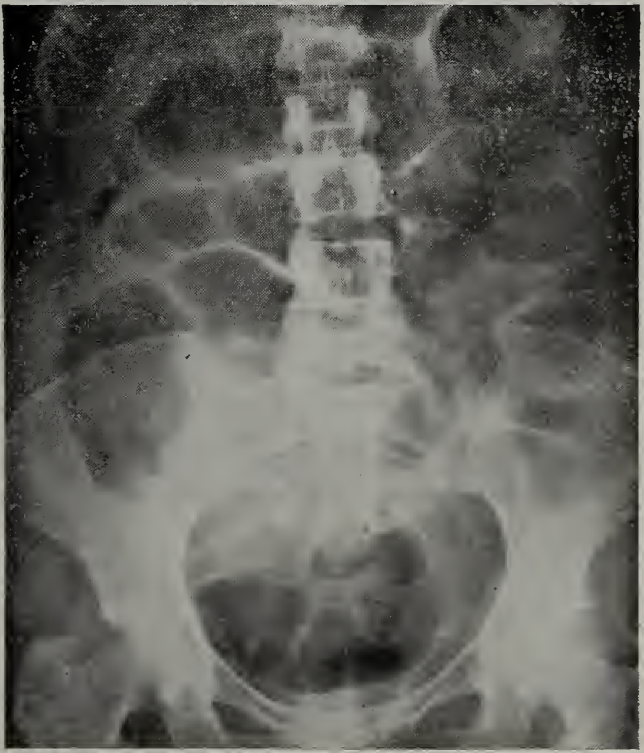


Figure V. Case 2. Flat plate of abdomen on admission showing small bowel obstruction.

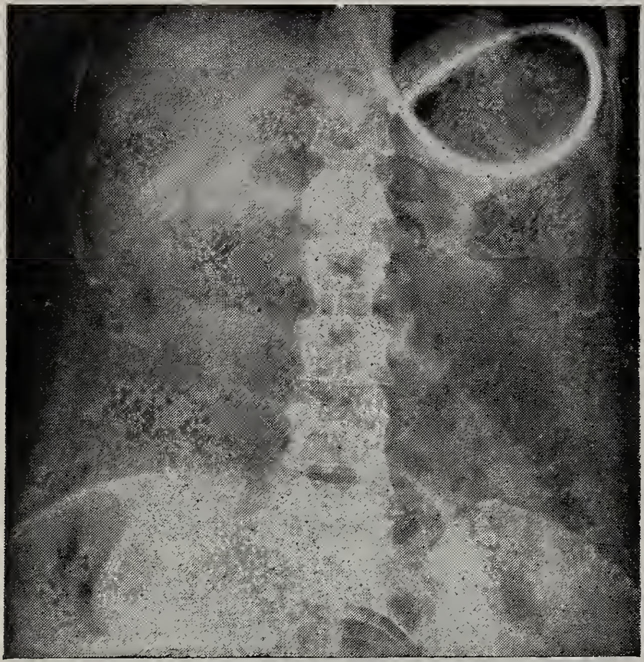


Figure VI, Case 2. Scout film of abdomen one hour later leaving tube in stomach as pre-operative measure. No attempt was made to pass the tube through the pylorus.

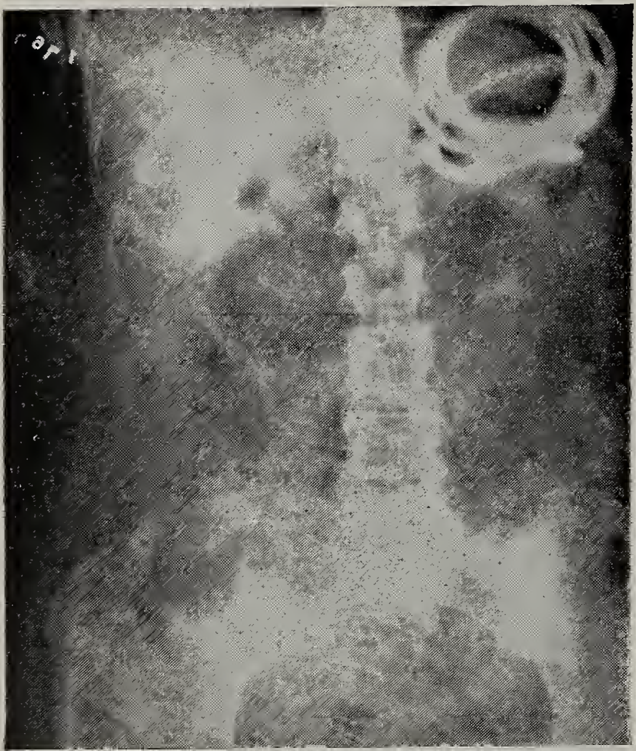


Figure VII, Case 2. Twelve hours postoperatively showing difficulty in passing the tube through stomach. Tube coiled in the stomach due to ileus and incomplete pylorus.

keynote in the passage of this tube. As we have said before the tube cannot possibly pass until the intestinal tract has resumed part of its lost muscular tone and the pyloric sphincter has become compensated.

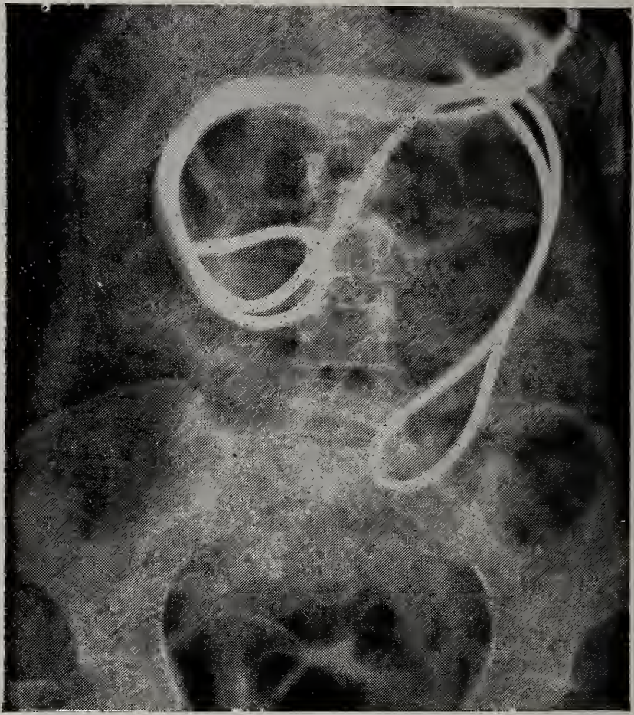


Figure VIII, Case 2. Three days postoperatively showing tube in the small intestine. Decompression partial.

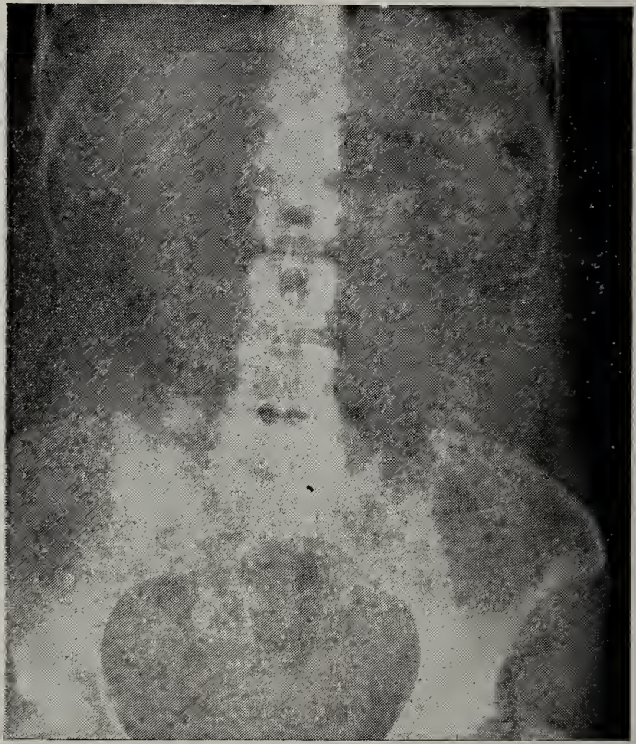


Figure IX, Case 2. Scout film of the abdomen showing removal of tube after decompression.

Case No. 3.

Case No. 18,182—Female, 19 years of age admitted to the North Mississippi Community Hospital May 25, 1946, at 1:00 A.M. with a diagnosis of a stab wound of the left abdomen and multiple lacerations of the face, hands and thighs. History revealed that patient had been stabbed in many places about the face, hands and thighs and one large stab wound of the left abdomen by her boy friend with a Dutch butcher knife approximately one hour previously. Physical examination revealed mutilating wounds of the face and hands and one large stab wound of the left mid-abdomen with a portion of the omentum hanging through it. The patient was in shock. The blood pressure 95/70, and was immediately given a large unit of Army plasma. She was immediately taken to the operating room where an exploration of the abdomen was done through the previously placed stab wound and with an increase for further exploration. Exploration revealed no penetration of the gastro-intestinal tract. Sulfa crystals were placed in the perineal cavity and the wound was closed without drainage. The patient was given penicillin postoperatively and was discharged from the hospital on the fifth postoperative day, her convalescence being uneventful. On May 30, 1946, the patient returned to the hospital complaining of vomiting, cramping pains in the upper left abdomen and tenderness and mass in the left abdomen. Her blood count and urine were normal. A flat plate of the abdomen (note x-ray) was typical of colonic obstruction. She was immediately intubated with the Miller-Abbott tube. A large amount of gas and fecal-like material was aspirated into the lower bottle of the automatic suction. It was felt that this was a low obstruction unassociated with the peritonitis and that the tube would rapidly pass through the pylorus, so she was told to swallow the tube six inches every hour until the next morning, at which time a scout plate of the abdomen revealed the tube to be well down into the small intestine at the ileocecal valve (note the x-ray). A rectal examinaiton was done and the patient was found to have a severe fecal impaction. She was given two enemas and expelled an enormous amount of fecal material per rectum. She was placed on liquids by mouth which she tolerated well. The abdomen did not distend following the clamping off of the Miller-Abbott tube and on the third postintubation day the tube was gradually pulled out following an injection of two ounces of mineral oil through the Miller-Abbott tube which has been recovered eight hours after it had been injected. The patient was discharged from the hospital on June 5, 1946, with no pain and regular bowel movements.

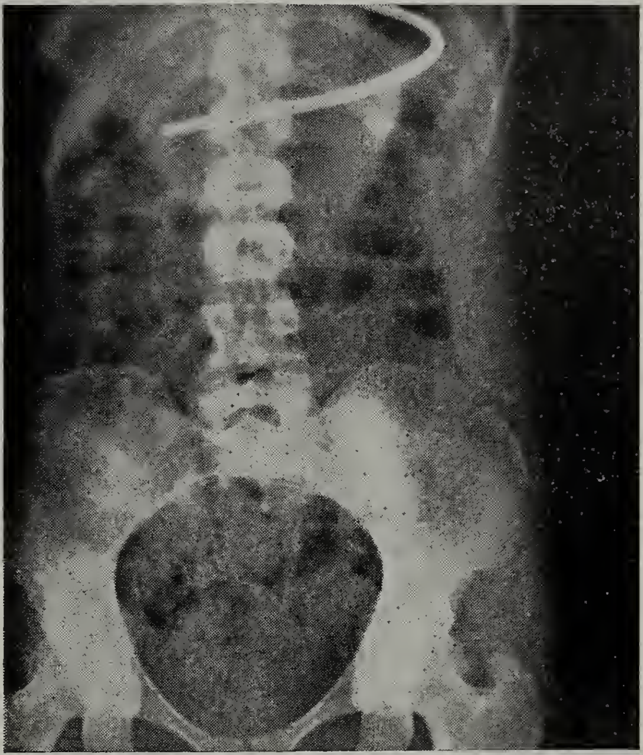


Figure X. Case 3. Flat plate of abdomen showing obstruction to the entire colon with tube passing through the pylorus.

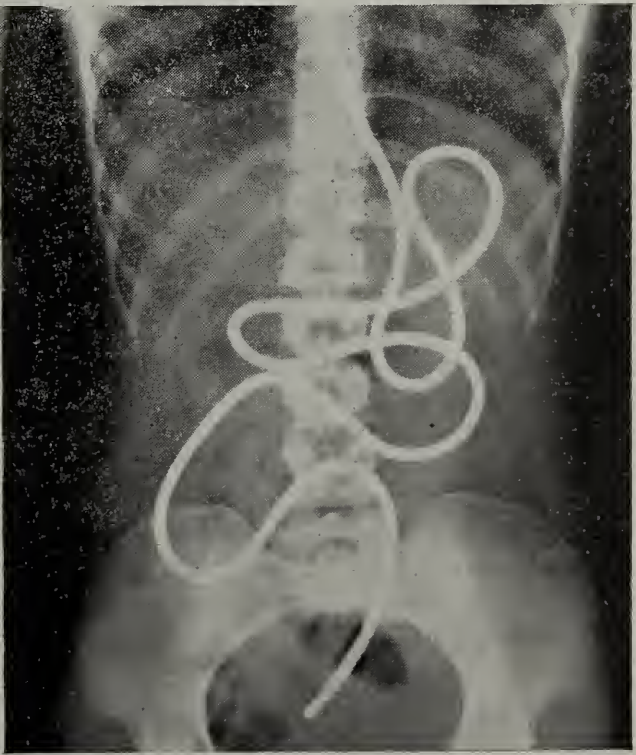


Figure XI, Case 3. Eighteen hours post-intubation showing tube well down in the small intestine.

COMMENTS

This case typifies the ease with which the Miller-Abbott tube is passed through the pylorus in those cases of low intestinal obstruction unassociated with peritonitis. I mention this case for the benefit of the medical men here as an efficient way of treating high fecal impactions that are causing intestinal obstruction.

At a postgraduate course in surgery last month given by the Lahey Clinic staff Dr. Bentley Colcock said in his talk on the use of the Miller-Abbott tube, "The success of intestinal intubation increases with the experience of the individual who is interested in it."

Case No. 4.

Case No. 18,264—Patient was admitted to the North Mississippi Community Hospital at 10:45 P.M. on June 14, 1946, her chief complaint being pain in right lower quadrant of the abdomen. Present illness: Patient was awakened on the morning of June 14 with generalized abdominal pain and cramping associated with loose stools having six movements between 6:00 A.M. and 11:30 A.M. Pain gradually localized in the right lower quadrant of the abdomen accompanied by rigidity in the right rectus muscle, nausea and vomiting. Her blood count was 83 per cent polys, 16,800 leukocytes. Urinalysis was negative. An appendectomy was immediataely done through a McBurney incision and an acutely inflamed appendix, gangrenous on the tip, was removed. The colon was greatly distended with gas and liquid stool. Postoperatively patient's temperature on June 15 was 102°. She was nauseated and vomited. One June 16 her temperature rose to 103°, she was passing frequent liquid stools and expelling an enormous amount of gas per rectum. She was immediately intubated with the Miller-Abbott tube following which she was completely relieved of abdominal pain and her temperature subsided by lysis and was normal on June 19. On June 18 an x-ray of the abdomen (note the x-ray) was taken which revealed the Miller-Abbott tube well down to the ileocecal valve. Her convalesence was uneventful.

COMMENTS

This case illustrates the value of the Miller-Abbott tube in a case of ileus postoperatively, which was due to a pre-existing colitis grafted on an acute suppurative appendicitis.

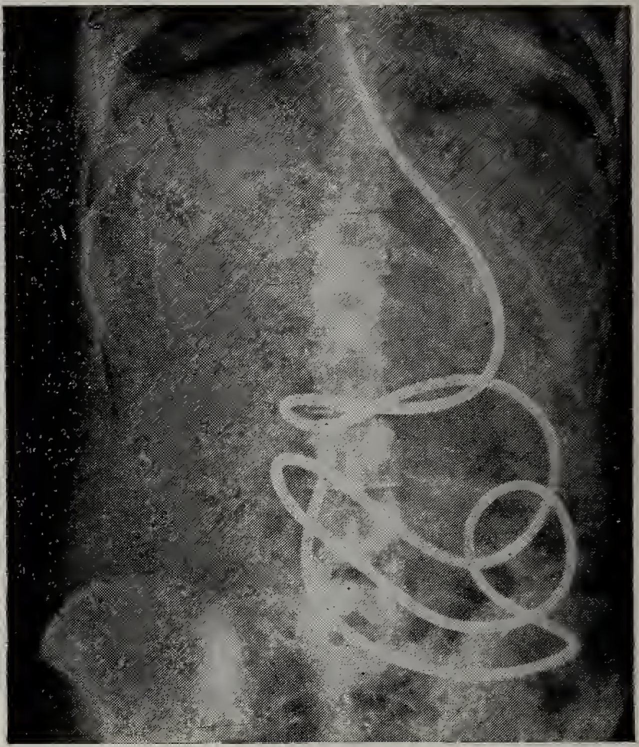
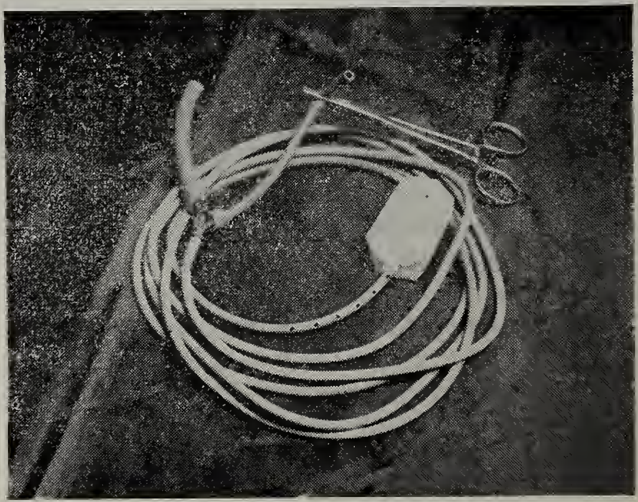


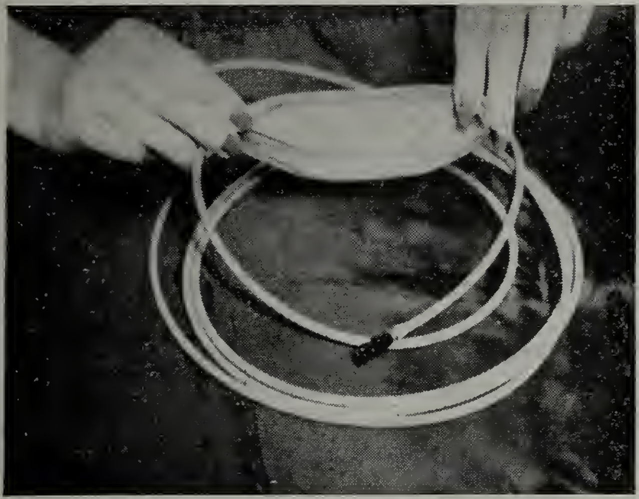
Figure XII, Case 4. Scout plate of abdomen in a case of ileus following removal of gangrenous appendix secondary to a severe colitis, showing bowel well decompressed and tip of tube down to the ileocecal valve.

Through the courtesy of Dr. Grover C. Penberthy, Detroit, Michigan, a film on the technique of intestinal intubation was presented at this point.

In this day of treating fractures by early motion, early postoperative arising and ambulation, postoperative use of heparin and dicumorol in the aged, let us not forget what Dr. Hugh Owen Thomas long advocated, attention to which has been called in an editorial in a recent issue of *Surgery, Gynecology and*



Miller-Abbott double lumen tube.



Harris mercury weighted single lumen tube.

Obstetrics by Dr. Sumner L. Koch that "inflamed and injured tissue needs rest." He gives us many illustrations of what our contemporaries and colleagues have said. "Many illustrations of the emphasis on rest in modern therapy can be quickly called to mind. The treatment of tuberculosis by rest of the body and rest of the involved lung is the basis of modern therapy. Miller, Abbott and Wangensteen introduced an effective method of controlling intestinal obstruction that exemplifies the principles Hugh Owen Thomas stressed so clearly."

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No one has been able to estimate the cost to the community involved in caring for persons infected by relapsed tuberculous patients, Probably, the cost is very high in both lives and money, Without vocational rehabilitation. the person recently discharged from a sanatorium has little choice but to return to the type of work he performed in the past, and the same factors that precipated the original breakdown may soon bring about a second one, Herman E. Hilleboe, M.D. and Norvin C. Kiefer, M. D., Pub. Health Rep., March 1, 1946.

Early Symptoms of Simple Glaucoma*

STIRLING S. McNAIR, M.D.
Jackson, Miss.

The term glaucoma is not a disease entity but is a group of symptoms which have the common feature that their clinical manifestations are dominated by an increase in the intra-ocular pressure and their consequences. The degree of raised pressure varies very much in different eyes and it is difficult to say when this increased pressure has become pathological. The pressure of a particular eye becomes pathologic for that eye when it is unable to withstand the pressure without damage to its structure or impairment of its function.

The term glaucoma contains many disease entities and it is impossible to consider them as different manifestations of the same disease. We divide them into 1) secondary glaucoma, the causes of which are known and 2) primary glaucoma, the causes of which are unknown. Primary glaucoma is divided into simple or compensated glaucoma, and congestive or incompensated glaucoma. As these two conditions have such different clinical manifestations they appear to be separate and unrelated diseases. This paper will deal only with simple glaucoma which is by far the most common type of glaucoma and represents between 1 and 2 per cent of all ophthalmic cases.

The etiology of this condition is obscure, but two features dominate the development of primary glaucoma, namely, a vascular instability or inefficiency and any embarrassment to the circulation of intra-ocular fluids.

Symptoms in simple glaucoma are very varied in different patients, but as a rule it develops slowly, quietly, and insidiously, and often it arrives at a far advanced stage in both eyes before anything amiss is noted by the patient, either in the appearance of the eye, in subjective symptoms of pain and discomfort, or in apparent functional efficiency. The fact that in the early stages of simple glaucoma, the patient is apt to have no subjective symptoms, make this disease an extremely treacherous one.

External Examination

The conjunctiva shows little change in simple glaucoma but if pressure remains high for a considerable time there appears a dilatation of the blood vessels, which if the pressure is not controlled, progresses and forms new anastomoses, and in absolute glaucoma these irregular, dilated anastomotic blood vessels form what is known as the Medusa head.

The cornea is usually normal in simple glaucoma but in later stages may appear hazy and there is loss of anaesthesia. The iris shows some degree of atrophy in all cases of glaucoma.

The anterior chamber varies considerably in depth. As a general rule in the youth it is normal or deep, and in the old shallow, in emmetropes it is normal, in myopes deep, and in hypermetropes shallow. The actual depth of the anterior chamber does not vary closely with the tension.

The pupil at first appears normal but upon close examination reveals a disappearance of the normal oscillatory reaction to light, a slugginess to contract in the light and readiness to dilate in the dark. These tendencies increase until it eventually becomes inactive and dilated.

The lens shows capsular exfoliation in 70 per cent of the cases of glaucoma which may have an effect upon embarrassment of the filtration channels. The advent of hypertension to an eye undoubtedly accelerates the growth of the cataract which in turn by the swelling of the lens sets up a vicious circle.

Ophthalmoscopic Examination

After prolonged pressure in an eye there is always some atrophy around the disc and in the choroid. The most important phenomena are pallor and cupping of the disc and the condition of the retinal blood vessels.

The presence of optic atrophy is the most constant clinical sign of established glaucoma. The degree of pallor of optic nerve is important as a prognostic aid. The amount of optic nerve atrophy does not vary in degree with the height of the pressure. The cupping of the disc is a result of mechanical pressure and ischemic degeneration acting in various cases to varying degrees. A difference of five diopters is often formed between the two levels of the disc. The arteries are more apt to pulsate in an eye with increased pressure than one of normal pressure.

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*Read before the Central Medical Society, Jackson, Miss., October 1, 1946.

The Ocular Tension

In simple glaucoma the tension may vary within wide limits and the actual height of the tension has little to do with the type of glaucoma or its pathological effects upon the structure or function of the eye, as one eye may withstand a high pressure for a long time without apparent damage and another eye may be greatly damaged by a tension slightly above top normal limits. The tension of a glaucomatous eye responds in an exaggerated way to stimuli which a normal eye can neutralize to a large extent. In a healthy eye the tension should not differ materially from that of its fellow, and should not vary over the limits of a few millimeters at different times of the day, in different illuminations, on the adoption of the horizontal position, or with use of mydriatics or miotics, whereas the glaucomatous eye may show a marked instability in all these circumstances. In either a normal or a glaucomatous eye, the lowest pressure is between 7 and 8 P.M. and the highest is between 5 and 7 A.M. In the normal eye the pressure varies not over five millimeters Schiotz during a twenty-four-hour period, while in a glaucomatous eye the pressure may vary twenty millimeters or more during the twenty-four-hour period. It follows that to study a suspected case of simple glaucoma the patient should be made to lead a regular life and the tension measured the same hours, one of which should be between 5 and 7 A.M. for three successive days. It is also well known that whereas a normal eye experiences a rise in tension after a stay in the dark, a glaucomatous eye shows a considerably higher rise of tension. The induction of vascular congestion also produces an abnormal high rise of pressure in the vascular unstable glaucomatous eye.

The subjective symptoms in simple glaucoma are absent until a late stage when a raised tension may give rise to a feeling of fullness in the eye and frontal headache. The visual acuity may remain unimpaired for a long time, long after the visual fields have suffered severely. Occasionally refractive changes of a myopic type due to advancement of the lens are seen, although a hyperopic change is much the more common. An early and rapidly increasing presbyopia is a common and significant sign of glaucoma. In the more advanced stages the vision fails due to retinal ischemia and degeneration and atrophy of the optic nerve. In an exacerbation of simple glaucoma there may be definite attacks of indistinctness of vision due to edema of the cornea although this usually occurs in subacute and acute glaucoma much more commonly.

Visual Fields

Perimetry especially in the early stages of simple glaucoma is a most valuable method of investigation not only to establish the presence of the disease but also to measure its progress, estimate its prognosis, and assess the value of treatment.

The main features of the glaucomatous field are 1) a general depression with peripheral contraction which is most pronounced on the nasal side and is frequently associated with the nasal step, and at a later stage with wide sector defects; 2) the formation of arcuate scotomata around the fixation point, with retention of central vision until a later stage; 3) color vision is not impaired to a disproportionate degree. The characteristic changes are nerve-fibre bundle defects and are caused both by pressure atrophy of the nerve fibers and vascular changes. The initial field defect as determined by a very small visual angle is a depression usually noticeable on the outer side of the blind spot; the isopter passes to its nasal instead of its temporal side so that the blind spot is laid bare usually on its upper aspects. The peripheral field is normal at this stage. Later a nasal step develops which later develops into a partial arcuate scotoma advancing towards the blind spot. Later there develops an absolute scotoma, at first not connected with the blind spot, but later merging into it to form Seidel's sickle scotoma. As the defect progresses Bjerrum comet scotoma and Rönne nasal step are found. As these progress a ring scotoma is formed around central fixation which finally obliterates central vision and often a small island of vision is left in the temporal field as absolute blindness occurs.

A delay in the development of dark-adaptation and a dulling of sensitivity to dim light is often noticed in the prodromal stages of simple glaucoma. These patients often remark of their extreme difficulty of adapting themselves on entering a dimly illuminated place after being near bright lights.

Diagnosis: Simple glaucoma when well developed and sharing the classical signs of raised tension, dilated sluggish pupil, cupped disc and restricted fields present no diagnostic difficulties. The one clinical sign which may cause doubt is the cupping of the disc which may be confused with the physiological cup, an atropic cup, a colobomatous cup, and cavernous atrophy.

The diagnosis of early simple glaucoma, on the other hand, is a problem sometimes of utmost difficulty. Suspicious symptoms in border-line cases are rapidly increasing presbyopia, headaches or fleeting obscurations of vision, and a feeling of fullness in the eye which may appear on waking in the morning, after a stay in the dark as at a movie, etc., or after a slight vasomotor upset (as a warm bath or the taking of coffee or stimulants), and the occasional presence of halos. The early clinical signs are of importance 1) the baring of the macula and the appearance of scotoma in the arcuate belt when the field is explored with a 1/2000 test object, or a Seidel's scotoma if larger test objects are used, and 2) the appearance of a fine pigmentary powdering on the iris. It is to be noted that cupping of the disc is a sign of well established glaucoma.

Before studying the tension changes in early glaucoma it is important to realize that the finding of a normal or even a subnormal tension on one or more occasions is no criterion that glaucoma does not exist. There are many tests of a provocative nature to aid in estimating the tension changes in early glaucoma. Among these tests are the dark room test, the decubitus test, blood pressure tests, venous congestion test, drinking test, adrenalin test, and the mydriatic test. While using these tests hospitalization of the patient is advisable. In conclusion I wish to emphasize that simple glaucoma is an insidious, dangerous, and often a blinding disease which is often difficult to recognize in its early stages, and it behooves all men doing eye work to be constantly on the lookout for this disease, as much can be done to check its progress.

DOCTOR'S NIGHTMARE?

Most American doctors will get the screaming meemies over a medical care bill which will probably become law in England this week.

The new scheme goes much further than the health insurance that staid old England has had since 1911. That insurance was limited to manual and low-salaried white-collar workers and did not cover their dependents. It offered only general practitioner service, without hospital or specialist's care.

But the new act provides free medical and hospital service for everyone, regardless of occupation or payment of insurance. And this is what the state provides:

1. Complete hospital care with treatment during convalescence.
2. Personal medical service by doctors, dentists, oculists, with access to modern facilities in health centers equipped at public expense.
3. Services of specialists either in hospitals or at home.
4. Home nursing and domestic aid when needed.
5. All necessary drugs and appliances.

It sounds like an invalid's dream. It also sounds like a private practitioner's nightmare. But the stark fact is that it's about to become the law in a country whose people are essentially more conservative than our own. As for the cost: All persons between school age and the age for old-age pensions will be insured under the Social Security act, although free medical services will not be limited to them alone. Some social security funds will be transferred to medical and health activities. Local governments will pay a small amount. And more than 70 per cent of the total cost will be met by the national treasury.

This is really state medicine, not the modest forward steps in the U. S., such as group insurance, the Blue Cross, and a broader public health service which at the outset brought protests from so many American doctors. Today, however, American doctors are tending to stop a negative policy of viewing with alarm, and are beginning to offer solutions of their own which would keep government and medical care as separate as possible. There must be more adequate health service for all Americans. We hope that America's medical profession, rather than the government, will act to provide such service. If they don't, England's way will eventually become our own.

—*The Delta Democrat-Times*

The Mississippi Doctor

Published monthly at Booneville, Mississippi.
Entered as second-class matter, January 19, 1926, at the post office at Booneville, Miss., under the Act of March 3, 1870. Annual subscription $1.00.

The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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We most heartily agree with Dr. Wall in saying that the American Medical Association should have a medical man as their liaison officer. Say it again and make it still stronger.

Many doctors are looking forward to the meeting of the Mid-South in February. It is the type of meeting that they love. The programs are fine and the fellowship at the Peabody in Memphis can not be excelled. Let us meet at the Mid-South.

The Northeast Mississippi Medical Society will hold its first quarterly session at Aberdeen in January. This should be a very fine meeting.

In March will come the Southeastern Surgical Congress which holds its annual meeting in Louisville, Ky., the home of the able president, Dr. E. L. Henderson, and in a city that possesses a wonderful medical atmosphere. This is one of our very best surgical associations.

We are very grateful to every one of our readers, each of our advertisers, each subscriber, and every doctor who carries a courtesy card showing his good will. We wish you a very Happy Christmas and a prosperous New Year. We hope to be able to serve you better next year through the pages of the *Mississippi Doctor*. Send us your special case reports, your papers, and help us in any way possible to put out a more serviceable journal.

The next meeting of the Northeast Mis- Moorhead- makes one grateful at this Christmastime.

TO ALL MEMBERS MISSISSIPPI MEDICAL ASSOCIATION

When I began collecting material for my "Pictorial History of Mississippi Medicine," I did not realize the magnitude of the undertaking. Too, I felt that the doctors throughout the state would be more coöperative than they now seem to be. It was such a small thing that I asked them to do, simply to send me a picture of themselves together with very brief biographical data and it was such a large thing that I wanted to do for them, that I felt that they would need no urging. Again it does not seem that I have made my purpose and program clear. So many seem to think that I propose to write and publish a book. I have never had any such purpose. I have said over and over again that there would be nothing to buy or to sell. Not one penny will accrue to me, while the expense to me will, necessarily, be considerable. I have tried to make it clear that it is a labor of love on my part. You have done so much for me in the past that I now want to do something worth while for you. When this material shall have been amassed it will belong to YOU and it will be placed in the State Department of Archives and History where it will be preserved and permanently displayed. Nou have made history; I want this history preserved. This will be my last effort to do constructive work in the interest of the organization. So I plead with you for your immediate coöperation. Please send me, at once, your picture and brief data concerning yourself. I plead, also, with the members of the Woman's Auxiliary for their help. This is in the interest of your splendid husbands.

Yours fraternally and sincerely,
G. S. Bryan

Book Review

When the name John J. Moorhead is mentioned in the United States, and we might say around the world, the best in traumatic surgery is implied. *Clinical Traumatic Surgery,* which came off the press a few months ago is a book that every surgeon should have from the country doctor at the cross roads to the very ablest in any field of surgery. This book is published by W. B. Saunders Company of Philadelphia and London and the price is ten dollars. The aim of the book was to place in one volume the information necessary to diagnose and treat the usual and most of the unusual effects of accident and injury. Dr. Moorhead has carried his methods of treatment recommended through forty years of testing in experience. Safety and simplicity constitute the heart of his methods. In the machine age in which we now live it is almost imperative for every practitioner to do some traumatic surgery; he must give first aid almost daily to accident cases.

Dr. Moorhead's book of four hundred and forty-seven pages and five hundred illustrations represents the condensed Bible of traumatic surgery the pages of which any doctor may read with profit. Injuries of every part of the body are considered, their cause, their treatment, and the fundamental principles involved in successful recovery of same.

The experience of two wars and more than twoscore years in practice in the great city of New York, lends power to each measured word of Dr. Moorhead. Surely no doctor's library is complete without this book, *Clinical Traumatic Surgery.*

News and Comment

AMERICAN COLLEGE OF SURGEONS CLINICAL CONGRESS

The five-day Clinical Congress of the American College of Surgeons will open in Cleveland on Monday morning, December 16, at 9:30 o'clock. This will be the first annual meeting of the College since 1941. Headquarters will be in the Cleveland Public Auditorium, and the Statler and Cleveland hotels, with most of the sessions, except the clinics at the hospitals, being held in the Auditorium. The program will include operative and non-operative clinics, demonstrations, symposia, panel discussions, forums, medical motion pictures, exhibits and the twenty-fifth annual hospital standardization conference which will convene during the first four days.

Dr. W. Edward Gallie of Toronto, president of the College, will preside at the opening meeting. Dr. Irvin Abell, chairman of the Board of Regents, will report on the progress of the 1946 Hospital Standardization survey.

A. M. A. CENTENNIAL

The American Medical Association is going to celebrate its centennial in Atlantic City, June 9-13, 1947. Elaborate plans are being made for this celebration.

Only Fellows and invited guests are eligible to attend. Membership in your state society is the primary qualification for Fellowship in the A. M. A. Fellowship dues and subscription to THE JOURNAL A. M. A. are both included in one annual payment of $8.00, which is the cost of THE JOURNAL to subscribers who are not Fellows.

If you are not a Fellow and plan to attend the Atlantic City session, which will be a milestone in medical history, you can save yourself considerable time and confusion when registering, if you will write now to the American Medical Association, 535 North Dearborn Street, Chicago 10, and ask if you are eligible to become a Fellow.

SOUTHEASTERN SURGICAL CONGRESS

The fifteenth annual assembly of the Southeastern Surgical Congress will be held in Louisville, Kentucky, Brown Hotel, March 10, 11, 12, 1947. The following men will appear on the program:

Dr. Claude S. Beck, Cleveland, Ohio; Dr. William F. Rienhoff, Jr., Washington, D. C,; Dr. Gordon S. Fahrni, Winnipeg, Canada; Dr. Donald T. Imrie, Vicksburg, Miss.; Dr. Henry W. Cave, New York City; Dr. Leonard Edwards, Nashville, Tenn.

Dr. Hugh A. Gamble, Greenville, Miss.; Dr. K. M. Brinkhous, Iowa City, Iowa; Dr. J. O. Rankin, Wheeling, W. Va.; Dr. R. B. McKnight, Charlotte, N. C.; Dr. Virgil S. Counseller, Rochester, Minn.; Dr. T. C. Davison, Atlanta, Ga.

Dr. M. A. Gilmore, Parkersburg, W. Va.; Dr. Sumner L. Koch, Chicago, Ill.; Dr. Marshall

L. Michel, New Orleans, La.; Dr. Robert S. Dinsmore, Cleveland, Ohio; Dr. W. Perrin Nicolson, Jr., Atlanta, Ga.; Dr. Harry Morris, New Orleans, La.

Dr. Norman F. Miller, Ann Arbor, Mich.; Dr. Joseph Cunningham, Birmingham, Ala.; Dr. Duncan McEwan, Orlando, Fla.; Dr. Arnold S. Jackson, Madison, Wis.; Dr. John A. Martin, Montgomery, Ala.; Dr. Warren H. Cole, Chicago, Ill.

Dr. W. Milton Adams, Memphis, Tenn.; Dr. Irvin Abell, Louisville, Ky.; Dr. Elmer L. Henderson, Louisville, Ky.; Dr. A. J. Buist, Jr., Charleston, S. C.; Dr. Frank A. Hoshall, Charleston, S. C.; Dr. Joseph Stewart, Miami, Fla.; Dr. Everett I. Evans, Richmond, Va.; Dr. Thomas L. Lee, Kinston, N. C.

SCHOLARSHIP LOANS

Forty-seven new doctors will come to rural Mississippi in the next five years, as a result of the state's new program of medical education. The Mississippi State Medical Education Board charged with administration of this program by the 1946 legislature, has granted during the summer and fall, forty-seven scholarship loans effective for the first semester of 1946-47. All of these awardees are attending school at present and have signed state contracts to practice in rural Mississippi immediately following completion of medical education and one year's internship.

These Mississippi medical students will attend eleven different medical schools throughout the nation, including: Mississippi, Tulane, Tennessee, Louisiana State University School of Medicine at New Orleans, Johns Hopkins, University of Pennsylvania Medical School, Southwestern Medical Foundation at Dallas, Texas, University of Utah Medical School at Salt Lake City, Washington Universtiy School of Medicine at St. Louis, Howard University School at Washington, and Meharry Medical College at Nashville, Tennessee.

Considering that 2500 doctors are needed, if the state of Mississippi is to receive adequate medical care, according to standards set by the American Medical Association, and bearing in mind that in the state at the present time there are less than 1350 practicing physicians, this contribution of forty-seven new doctors for rural Mississippi shrinks by comparison. "But all good work must have a beginning—and Mississippi has begun the good work of bringing doctors to Mississippians," comments Dr. D. S. Pankratz, chairman of the State Medical Education Board.

Continued Dr. Pankratz, "Does anyone ask why the state should be interested in the doctor shortage? Good health is necessary to good citizenry. Well people are hard workers and are good investments with sound returns."

Names of students attending each school, with home address of each student, follow:

University of Mississippi: Glenn D. Baird, Water Valley; R. E. Caldwell, Baldwyn; Guy D. Campbell, Laurel; George Daniel Copeland, Senatobia; George Earl Emmett, Clinton; Marion Virginia Green, Rolling Fork; Norman E. Green, Jackson; Aubrey Russell Harris, Shannon; Louie C. Henry, Water Valley; Martin Edward Hinman, Pascagoula; (Miss) Johnnie Marie Horn, Lucedale; Sam P. McClatchy, Holly Springs; S. Jay McDuffie, Nettleton; Eric A. McVey, Jr., Lambert; Jefferson W. Paslay, Clarksdale; Michael E. Shaheen, Senatobia; (Mrs.) Virginia Stansel Stacy, Ruleville; Jack Byrd Tinsley, Scooba; Lee H. Trapp, Nettleton; N. Ney Williams, Jr., Raymond.

Tulane University School of Medicine: (Mrs.) Virginia Nash Apter, Biloxi; Jack Johnson Easom, Walnut Grove; John Mitchell Ford, Baldwyn; Nina Bess Goss, Jackson; Millars Jensen, Lucedale; S. H. McDonnieal, Jr., Summerland; Mary Frances Mayfield, Laurel; Ferd M. Shell, Jr., Jackson; Marcus E, Waring, Tylertown; James P. Wood, Clinton.

University of Tennessee College of Medicine, Memphis: John R. Mullens, Jr., Clarksdale; Fred P. Sage, Drew; Roy L. Smith, Utica.

Louisiana State University School of Medicine, New Orleans: James H. French, Water Valley; James Louis McLain, Jackson; William G. Spence, Jackson; Louie F. Wilkins, Jackson.

Johns Hopkins University School of Medicine, Baltimore: William F. Owens, Clarksdale; Joe W. Wiggins, Jackson.

University of Utah, Salt Lake City: Lloyd Z. Broadus, Purvis.

Southwestern Medical Foundation, Dallas Texas: William Henry Mosby, Meridian.

University of Pennsylvania, Philadelphia: Thomas Albert Robinson, Laurel.

Washington University, St. Louis: John K. Henry, Magee.

Colored students attending medical school as awardees are: Anthony D. Jones, Vicksburg, enrolled at Howard University, Washington, D. C.; and Eusebius M. Barron, Jackson, Albert L. Lott. Brookhaven, and Marshall F. Nichols, Jr., Biloxi, all attending Meharry Medical College, Nashville, Tennessee.

PIKE COUNTY SOCIETY ELECTS

At its bi-monthly meeting on December 5, 1946, members of the Pike County Medical Society were guests in the home of Dr. and Mrs. F. S. Herrin of Summit, Miss. An unusually large attendance of physicians enjoyed a delicious dinner before engaging in the evening program.

The guest speaker for the occasion was Dr. Tom Blake, orthopoedic surgeon, of Jackson, Miss. He was accompanied and assisted by Dr. J. W. Caden who is engaged in practice with him in Jackson. A most informative talk on fractures of the hip, illustrated with lantern slides, was presented by the guest speaker.

Officers for the coming year, 1947, were elected during the meeting. Those chosen by the group were: president, Dr. Thomas Purser, Jr., McComb, vice-president, Dr. Frank L. Butler, McComb, and secretary-treasurer, Dr. T. L. Moore, Jr., McComb, Miss. These officers will take office at the next regular meeting in February.

The following guests and members attended the meeting: Drs. Tom Blake and J. W. Caden of Jackson, Miss. Drs. A. V. Beacham, Dan Beacham, G. W. Robertson, and J. M. Smith of Magnolia, Miss.; Drs. F. S. Herrin and J. E. Hewitt of Summit, Miss.; Drs. E. M. Givins, W. C. Hart, Gladys Ratcliff, R. H. Brumfield, H. L. Bauer, T. L. Moore, F. L. Butler, W. F. Cotton, L. W. Brock, B. J. Hewitt, S. P. Klotz, and Thomas Purser, Jr., of McComb, Miss.

TRI-COUNTY MEDICAL SOCIETY ELECTS

Dr. J. G. Blaine of Hazlehurst has been elected president of the Tri-County Medical Society which includes Copiah, Lawrence, Lincoln and Walthall.

Vice presidents were elected as follows: Copiah, Dr. A. C. Miller of Wesson; Lawrence, Dr. S. E. Izard of Newhebron; Lincoln, Dr. R. C. Massengill of Brookhaven; and Walthall, Dr. E. H. Crawford of Tylertown. Dr. R. B. Zeller of Hazlehurst was re-elected secretary-treasurer.

ANNOUNCEMENTS

John B. Nuckolls, M.D., announces the installation of an x-ray cystoscopic table and is now prepared to do both intravenous and retrograde pyelography in the office, 424 E. Main Street, Jackson, Tennessee.

The Vicksburg Hospital, Inc,, and the Vicksburg Clinic announce the association of Joseph G. McKinnon, M.D., formerly commander, United States Navy, as associate surgeon and Ernest Landy, A.B., M.D., chief of department of roentgenology and radiology.

John F. Lucas, M.D., announces the association of Thomas C. Todd, M.D., formerly instructor of obstetrics and gynecology, University of Virginia. Practice limited to obstetrics and gynecology, Physicians and Surgeons Building, Greenwood, Mississippi.

RELEASE

The Board of Directors of the Eye-Bank for Sight Restoration, Inc., 210 East 64th Street, New York, N. Y., announces the following scholarship and fellowship awards:

Dr. Frank Constantine has been granted a Fellowship to pursue studies in relation to corneal vascularization.

Dr. Arnold Forest of the Army Institute of Pathology, Washington, D. C., has been granted a Fellowship for training in Ophthalmic pathology with special emphasis on corneal pathology.

Dr. Milo H. Fritz of New York has been granted a Fellowship to continue studies in vitreous replacement and vitreous transplants.

BARBITURATE REGULATION

Pharmacists in the prescription departments of the United-Rexall Drug Company's Liggett, Owl, Sontag and Renfro drug stores are now under instructions to label all refillable barbiturate prescriptions as habit forming and also with the barbiturate content per unit.

The Food and Drug Administration claims that the absence of such information would constitute a violation of the Federal Food, Drug and Cosmetic Act, and the manufacturer will henceforth place the following statement on barbiturates, "Medicine of this type should be taken only for the purpose and for the length of time for which your physician prescribed it".

STATE HOSPITAL COMMISSION

The Commission met in regular session at the call of Mr. Jack M. Montgomery, chairman, and discussed the progress being made on the hospital inventory. Seventy of the 130 hospitals in the state have now been surveyed and the remaining 60 will be completed by January 1, 1947. It becomes more evident as the hospital program develops needs are urgent in many communities in the state.

Plans were discussed for the annual meeting on January 15, at which time the State Advisory Council and the governor will be invited to meet with the Commission.

Mr. Graham Davis, the director of the W. K. Kellogg Foundation's rural hospital building program at Battle Creek, Michigan, will visit the State Commission in March, 1947 to assist the Commission in the outlining of the state hospital program.

STATE ADVISORY COUNCIL COMMISSION ON HOSPITAL CARE

Dr. C. B. Alford, Columbia, Miss.
Dr. W. H. Anderson, Booneville, Miss.
Dr. W. H. Brandon, Clarksdale, Miss.
Dr. F. L. Brantley, Madden, Miss.
Mr. W. M. Chapman, Belzoni, Miss.
Mr. L. O. Crosby, Picayune, Miss.
Mr. O. D. Davis, West Point, Miss.
Mr. Don P. Delp, Corinth, Miss.
Dr. R. J. Field, Centerville, Miss.
Dr. Francis Dixon, Natchez, Miss.
Dr. Hugh Gamble, Greenville, Miss.
Dr. J. G. Gardner, Columbia, Miss.
Mr. Joe W. Hardaway, Michigan City, Miss.
Mrs. Ralph Hester, Jackson, Miss.
Mrs. Lula May Jones, Marks, Miss.
Mr. Willie Hines, Hattiesburg, Miss.
Mr. Syd Hopkins, Aberdeen, Miss.
Mayor A. P. Latimer, Shaw, Miss.
Mr. E. P. McNeil, Hattiesburg, Miss.
Mrs. Johnnie Oridge, Lexington, Miss.
Mr. Walter Page, Starkville, Miss.
Mr. LeRoy Percy, Greenville, Miss.
Mrs. J. A. Randle, Starkville, Miss.
Dr. H. Lowry Rush, Meridian, Miss.
Mr. Austin Seay, Winona, Miss.
Dr. C. M. Shipp, Bay St. Louis, Miss.
Mr. Ben M. Stevens, Richton, Miss.
Mr. R. C. Stovall, Columbus, Miss.
Dr. L. O. Todd, Decatur, Miss.
Mr. Brooks Toler, Laurel, Miss.
Mr. J. H. Watte, Pascagoula, Miss.
Mrs. C. D. Williams, Yazoo City, Miss.
Mr. Ellis T. Woolfolk, Tunica, Miss.
A. A. Alexander, Brookhaven, Miss.
P. M. Smith, Mound Bayou, Miss.

THE HOSPITAL SURVEY AND CONSTRUCTION ACT

President Truman on August 13 gave his approval to the Hill-Burton hospital construction bill, officially designated as the Hospital Survey and Construction Act. With that approval this legislation became Public Law No. 721, 79th Congress. While the new law authorizes an appropriation of $3,000,000 for state conducted surveys of need and $75,000,000 annually for a five-year period for construction of hospitals and related facilities, the recent Congress made available only $2,350,000 earmarked for assistance to states in surveying and planning and for administrative expenses of the United States Public Health Service in connection with the program.

The formation of a Division of Hospital Facilities has been announced by the Public Health Service, to be headed by Medical Director Vane M. Hoge. This new division of the Bureau of State Services will be responsible for carrying out the functions which the Public Health Service is authorized to perform under the law, including assistance to the states, their political subdivisions and nonprofit organizations in matters relating to the study, construction and operation of hospitals. This division will also assist the Surgeon General in preparing regulations, determining allotments and grants and considering applications, plans and projects.

Each state for which a state application for assistance in making a survey and in formulating a building program has been approved will be entitled to an allotment of such proportion of the available federal appropriation for such purposes as its population bears to the population of all the states. Within such allotment it will be entitled to receive 33⅓ per cent of its expenditures for surveys and planning. An allotment to any state will not be less than $10,000. Applications for survey and planning funds must be submitted on forms prepared for this purpose by the United States Public Health Service. The governors of the several states will be notified by the district offices of the Public Health Service as soon as these forms are available. In submitting an application a state must designate a single state agency to carry out the survey and planning, and there must be appointed a properly qualified advisory council to consult with the state agency, composed of representatives of nongovernmental organizations or groups and of state agencies concerned with the operation, construction or utilization of hospital services selected from among persons familiar with the need for such services in urban and rural areas.

As previously indicated, the recently adjourned Congress did not appropriate funds for the construction of facilities. No doubt the next Congress will provide the necessary funds. When a state has completed the first step contemplated by the new law, namely a survey of the needs, a building plan must then be developed based on the results of the survey and study. This plan must be submitted to the Surgeon General for approval, following which the state will be eligible to receive construction allotments. These allotments will vary in amount. Population will be one factor, and in addition the average per capita income will be used in the allotment formula in such a way that states with a lower per capita income will receive proportionately larger allotments per capita.

Following the approval of the state plan, applications for funds for individual construction projects must be channeled through the designated state agency and be submitted to the Surgeon General. Before any single project is approved, sufficient evidence must accompany the request to show that two thirds of the total cost of construction is available from other than federal sources and that financial support is adequate for the maintenance and operation of the hospital or related facility at completion. As in the case of the survey and planning, then, the federal amount available to aid in a construction project will be one third of its cost. If a construction application is disapproved by the Surgeon General, the state agency may appeal to the federal courts. No such appeal is available to the construction applicant, such as a municipality, for example.

A recent release by the Public Health Service indicated that, when an application for a building project has been approved, the allotment available to the state will be encumbered to the full extent of the federal grant approved for that project even though the grant is paid in installments. Sums allotted to a state for a fiscal year for construction and remaining unobligated at the end of such year will remain available to the state, but only for use during the following fiscal year.

In anticipation of the enactment of this law, many states either have already completed surveys or have made preparations to initiate them. Since this program is so intimately associated with the supplying of medical care, the medical profession cannot neglect its responsibility to make certain that its development and administration proceed along rational lines. State administrative agencies and advisory councils should be wisely selected, and state and local medical associations should extend their counsel to those to whom the duty of carrying out the provisions of the law has been or will be entrusted.

—*Journal of the American Medical Association*

A CAROL FOR CHRISTMAS

If Jesus Christ, full-statured, stood,
Supreme above the U. N. O.
And if His sense of brotherhood
Possessed the hearts of high and low,

Then, Russia and her satellites,
America and Britain, too,
Might reconcile conflicting rights
And paths of smiling peace pursue.

If all mankind this Christmas Day
Would take the trail the Wise Men trod,
The hosts of hell would slink away
Before the singing sons of God.

No battle flag would be unfurled.
No atom bomb would menace man.
Till Christ's own creed shall sway the world
Earth's potentates in vain shall plan.

No method born of mortal brain,
Nor federation shall suffice.
Man's proudest projects must remain
An idle and a vain device.

There is no other path to peace,
Besides the road to Bethlehem.
There is no ransom nor release
Till Christ shall wear earth's diadem.

Then, like the three Wise Men of old,
Let every nation, tribe and clan
Seek out the Child with gifts of gold
From every woman, every man.

With shepherds' songs in sweet accord,
Let every heart and tongue proclaim
Allegiance to the Christ, the Lord,
With hallelujahs to His name.

David E. Guyton
Blue Mountain, Mississippi

Deaths

DR. J. W. BAILEY

James William Bailey, prominent physician of Kosciusko, died November 4 at his home after a long illness. He was 75.

Born in Ayres, Attala County, he was the son of the late James Wesley and Elizabeth Sullivan Bailey. He was educated in the public schools of Attala County where for a number of years he was a teacher. Later he attended the College of Physicians and Surgeons, now the University of Tennessee College of Medicine, from which he received his M.D. degree in 1911. Since then he has practiced his profession in Holmes and Attala counties.

Dr. Bailey had been county health officer of Attala for several years and for twenty-six years served as company physician for Kosciusko's Aponaug Manufacturing Company.

He was a member of the Masonic Lodge, Woodmen of the World, First Baptist Church of Kosciusko, and was a former chairman of its Board of Deacons. He was a member of the Winona District Medical Society, as well as the Mississippi State and the American Medical associations.

He leaves his wife, Mrs. Leona Dickens Bailey; two sons, Dr. S. Lamar Bailey and J. Lytle Bailey; two grandsons and a granddaughter, all of Kosciusko; a brother, C. C. Bailey of Kosciusko; and two sisters, Mrs. Mollie Burks of Ethel and Mrs. Lillie Leach of Anadarko, Okla.

DR. C. M. MURRY

Services were held at the Ripley Methodist Church November 7 for Dr. C. M. Murry, who died at his home in Ripley.

Dr. Murry, member of a pioneer Tippah County family, was 70. He was a son of the late Dr. John Y. Murry, who practiced medicine in Ripley 60 years before his death in 1915, and the late Mrs. Mary Miller Murry, a daughter of the late C. H. Miller, one of the first citizens of Ripley and founder of the local Methodist Church.

He attended Webb School at Bellbuckle, Tenn., and was a graduate from Jefferson Medical College in Philadelphia, Pa., in 1890, where his father had attended medical school and where a son was graduated a few years ago. He had practiced his profession since his graduation until his recent illness, which began a few weeks ago, and he was one of the best known physicians in Mississippi.

At various times he had served as a member of the Mississippi State Board of Health, as an officer of the Mississippi Medical Association and for many years as health officer of Tippah County before there was a full time health unit there. He was a pioneer in preventive medicine in this section and used the first antitoxin against diphtheria in his county and the first inoculations against typhoid.

Dr. Murry had been active in Masonic affairs for about fifty-five years and was the oldest member of the Ripley lodge in years of membership. He had been a steward in the Ripley Methodist Church for many years.

He was married in 1901 to Miss Hattie Neblett of Iuka, daughter of the late Rev. R. A. Neblett, well known Methodist minister. He leaves his wife, two sons, both physicians, Lieut. Charles W. Murry, Jr., Naval Hospital, Bethesda, Md., and Dr. A. Vance Murry of Elk City, Okla.; two daughters, Miss Mary Miller Murry, who has been connected with the State Y.W.C.A. with headquarters in Jackson, Miss., and Mrs. Homer Haber of Port Arthur, Texas; three sisters, Miss Etter Murry, Miss Anna Murry and Mrs. E. R. Richey, all of Ripley, and a half sister, Mrs. Lizzie Hunt of Portland, Ore.

DR. J. O. SEGURA

Burial services for Dr. J. O. Segura, vice-president and medical examiner of the Lamar Life Insurance company, died suddenly October 25 at Abbeville, La.

Dr. Segura had gone to Erath, La., to visit his mother when he was stricken with a heart attack. He had been with the Lamar Life Insurance Company for the past twenty years. Prior to that time he practiced medicine here. He served in the army medical corps during World War 1.

Besides his wife, he is survived by a daughter, Mrs. A. T. Nadeau, Jackson; a son, Weston Segura, Louisville, Ky.; his mother, Mrs. Odra Segura, Erath; and a sister, Mrs. V. J. Shauvan, Erath, La.

DR. R. F. RATLIFF

Funeral services were held for Dr. R. F. Ratliff on October 25 in Lucedale after an illness of three years and ten months.

Dr. Ratliff was born at China Grover, Pike County, Mississippi, March 2, 1878, the son of Simon and John Ratliff.

He attended school at China Grover and at Nashville, Tenn., Tulane University and Mayo Clinic.

He came to Lucedale in 1900, and since that time had practiced there.

He was a member of the Lucedale Methodist Church and trustee of that church, a Shriner, a member of the Order of Eastern Star and a Rotarian. Dr. Ratliff was considered the father of the Lucedale Rotary Club, and he was a faithful member from its beginning until his health forced him to abandon its work.

He was always found working for any move that was for the betterment and advancement of Lucedale and Georgia County.

He is survived by his wife, one son, R. F. Ratliff, Jr., one sister, Mrs. J. H. Lampton, of Columbia, one brother, M. S. Ratliff, Lucedale, two grandchildren and other relatives.

DR. RICHARD C. SMITH

Services for Dr. Richard Curtiss Smith of Drew, who died November 7 at Greenville following a short illness, were held at the First Baptist Church at Drew. He was 70.

Dr. Smith, who was born at Blue Springs in Union County March 27, 1876, had lived in Drew and Sunflower County for forty-four years. In 1906 he was married to Miss Lillian Agnew of Union County.

Following his graduation in 1902 from the University of Tennessee Medical College in Memphis Dr. Smith did postgraduate work at Vanderbilt University in Nashville and at Tulane University in New Orleans. He was a member of the Mississippi Medical Association and past president of the Delta Medical Society and the Sunflower County Medical Society.

Dr. Smith was active in the civic and religious life of his community, having served for many years as a deacon in the Baptist Church, member of the school board and city alderman. He was a charter member of the Rotary Club at Drew.

Dr. Smith leaves his wife, Mrs. Lillian Agnew Smith, a daughter, Frances K. Smith, and a son, Curtis Smith of Drew; two sisters, Mrs. Lee Merritt and Mrs. W. F. Cook of New Albany; two brothers, Hurren Smith of Shreveport, La., and Vardon Smith of New Albany.

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson
Otolaryngology—Edley Jones, Vicksburg
Ophthalmology—Charles R. Hume
Obstetrics and Gynecology—J. F. Lucas, Greenwood.
Orthopedics—Thomas H. Blake, Jackson.
Public Health—Felix J. Underwood, Jackson.
Pediatrics—Harvey F. Garrison, Jackson.
Radiology and Roentgenology—Karl O. Stingily, Meridian.
Pathology—R. M. Moore, Vicksburg, Miss.
Surgery—W. H. Parsons, Vicksburg.
Urology—Temple Ainsworth, Jackson.

DERMATOLOGY

James G. Thompson

EVALUATION OF MEASURES FOR USE AGAINST COMMON FUNGOUS INFECTION OF SKIN. M. B. Sulzberger, C. Shaw and A. Kanof, U. S. Nav. M. Bull. 45: 237 (Aug) 1945.

The object of this study was to test the comparative values for the prophylaxis and the treatment of fungous infections of the feet and the groins, of the following materials: 1) undecylenic acid-zinc undecylenate powder, 2) sodium propionate powder, 3) boric acid salicylic acid powder, 4) undecylenic acid—zinc undecylenate ointment, and 5) clothing impregnated with impregnite CC3 by the water-in-oil emulsion process.

The results in prophylaxis revealed that active fungous infections developed in the feet of: 1) 8.85 per cent of the men using no prophylactic measures; 2) 8.33 per cent of the men who wore an impregnated sock; 3) 11.15 per cent of the men using boric acid salicylic acid powder; 4) 3.10 per cent of the men using undecylenic acid—undecylenate powder.

The results in the treatment of active and usually bilateral fungous infections of the feet indicated that : 1) impregnated socks were of no value; 2) propionate powder and undecylenate powder were equally effective, and 3) undecylenic acid—undecylenate powder and undecylenic acid—undecylenate ointment were also equally effective.

In the treatment of active fungous infections of the groin, the results were as follows: 1) undecylenic acid—undecylenate powder effected cures in thirty-five cases and improvement in eight and was of no effect in one; 2) sodium propionate powder effected cures in ten cases and improvement in three and was of no effect in four, and 3) impregnated clothing made the infections in four cases worse and was of no effect in seven.

Rodin, South Bend, Ind.

OPHTHALMOLOGY

Charles R. Hume

OPHTHALMIC PENICILLIN OINTMENTS. Sallmann, Gross and Marsh, New York City, The Archives of Ophthalmology, Vol. 36, No. 3, Page 284.

The authors made a study of three properties of penicillin ophthalmic ointment: first, the irritative action on the normal rabbit and human eye; second, the stability of penicillin in various bases at room and refrigerator temperature; and third, the penetration of penicillin from the ointment into the eye.

The sodium, ammonium and calcium salts of penicillin were incorporated in four to six, and the free acid in one, of the following bases:

1) wool fat-petrolatum base, hydrous; 2) wool fat-petrolatum base, anhydrous; 3) S base, anhydrous; 4) wool fat-cold cream base; 5) hydrosorb; 6) lanette wax; 7) vegetable oil base, hydrous; 8) vegetable oil base, anhydrous; 9) L base, anhydrous.

Two of the nine ointment bases were found to be irritating to the eye.

The potency of the penicillin in the salves was relatively stable in one hydrous and two anhydrous bases after twelve to sixteen weeks in the refrigerator. Storage at room temperature usually resulted in a rapid loss of potency except the two ointments prepared with an anhydrous base. No difference in the stability of the various ointments could be ascribed to the penicillin compound in the salves. The penetration of penicillin into the aqueous of rabbits was substantial from one hydrous and two anhydrous bases. After the application of two ointments with the calcium salt, the content of penicillin in the aqueous exceeded that after the use of salves with the sodium and ammonium salts. The resorption of penicillin was unsatisfactory from the one ointment which contained the free acid of penicillin.

Editorial Comment: From the above it is obvious that relatively few penicillin ointments are satisfactory. While comparatively few are irritating, many lose their potency so quickly as to be of little value. A careful study of this article is recommended to those who prescribe penicillin ophthalmic ointments.

PEDIATRICS

Harvey F. Garrison

Dye Poisoning in Infancy — Scott, E. P., Prince E. and Rotondo, C. C. — Journal of Pediatrics, 28: 713 (June) 1946.

Recently two episodes of dye poisoning have occurred on the pediatric service of the Louisville General Hospital, one in the hospital nursery and the other one in the isolation ward.

On February 28, 1945, at 3:00 p.m. it was called to the attention of the pediatric house officers that one of the premature babies had become cyanotic. Physical examination failed to reveal a cause for this condition. Four hours later another premature infant in the same unit became cyanotic. The following morning, a third infant was found to have a bluish tint on the lips and skin. Since these were the only babies in this unit, a common etiological agent was suspected. That evening all the newborn babies (32) in the adjoining nursery showed transient cyanosis. A thorough search for the presence of gas, insecticide sprays, disinfectants, and other poisons was made, but it was impossible to discover an agent which could have produced such an episode.

On March 3, one of the nurses stated that on the day the cyanosis appeared, she had helped stamp diapers used in the nursery. It was found that the diapers had been stamped on all corners and both sides before being laundered . . The stamping ink bottle was found and was clearly marked, 'This ink contains aniline oil which must be removed by laundering before the marked article is stocked or worn.'

On September 15, 1945, three infants on the isolation ward became cyanotic. These were the smallest of eleven babies admitted to this ward because of nutritional disturbances. All three had sever diarrhea and excoriation of the buttocks. Careful check on all medications failed to reveal any drug which was being administered to these children which was not also being received by the others. Because of the previous episode, search was made for newly stamped garments. The clothes of these patients were stamped with aniline dye, but all had been laundered before use. Freshly stamped washclothes were found at the bedsides. The small clothes were stamped eight times and had been used to clean the buttocks of the children. The new linen had been stamped the previous day and placed in a separate compartment so that it could be laundered. That night with a change of nursing personnel these clothes were discovered and used. New towels had also been freshly stamped, but no evidence of their use could be found.

In the first episode herein reported, it is interesting to note all the premature infants were affected, but the full-term babies showed only transient cyanosis. Since the premature infants were affected first, one might think that they were more susceptible to the aniline intoxication. However, it may be possible that they were diapered earlier with the aniline stamped linens.

Three of the affected infants died. In the first group, it is possible that the aniline intoxication may have been a factor in the death of one premature infant. In the second group of infants, both deaths occurred at least three weeks later and postmortem examination revealed the causes of death.

One infant was treated with methylene blue intravenously and recovery was dramatic. Cyanosis, which was most marked in this case, disappeared in one hour as contrasted to the others in this series who remained cyanotic from twelve to twenty-four hours.

All hospital linens marked or stamped with an aniline dye should be laundered before use.

COMMENT: This article is abstracted simply as a reminder that such things can occur, and since we are now building more and more hospitals in Mississippi there will also be more opportunities for babies to be poisoned in this manner. We would suggest that the physicians keep this in mind.

State Board of Health

Felix J. Underwood, M. D.

INTERNSHIPS IN THE PUBLIC HEALTH PROGRAM FOR MEDICAL STUDENTS

In the spring of 1946 a number of medical schools became interested in coöperating with the Mississippi State Board of Health in a summer demonstration program for their sophomore and junior medical students to determine the value of two or more months actual experience in a state-wide public health program. Twelve students were accepted on the basis of references, and their expressed interest in the field of public health. Through this program, the medical students gained a real insight into public health, participated in clinical and other activities, and aided the health officer in the general prosecution of the health program of his particular community.

Prior to assignment to a county health department, the medical students spent a week in the state offices in Jackson getting acquainted with the organization and services of its divisions. Members of the staff assisted with this preliminary training, discussing the following subjects:

Relations with Health Department Personnel
Use of Library
County Health Program
Use of County Health Records
Statistics
Immunization Procedures and Communicable Disease Regulations
Syphilis Program; Demonstration of Treatment Setups
Tuberculosis Program; Use of x-ray Machines
Maternal and Child Health Program
Child Guidance
Nutrition
Sanitation; DDT Program
Public Health Nursing

Through the county health department program, the medical student has an opportunity to gain valuable training in clinical technics, especially in the following:

Venereal Diseases Control Admissions
Tuberculosis Control Admissions
Antepartum Medical Services
Infant Medical Services
Preschool Medical Services
Adult Hygiene Admissions
Immunizations

The county health department in which medical students assisted in the spring of 1946 report briefly on certain phases of their programs as follows:

Coahoma County. The health department held 144 medical antepartum conferences and 1,280 antepartum cases were examined. Although still a major problem, venereal diseases are rapidly diminishing. In 1943, 42,105 treatments were given and in 1944 only 18, 631. Since April, 1945, health education has been set up as a separate division and given a major role to play.

Washington County. The child guidance program under the direction of a trained and well qualified psychiatrist was inaugurated and has demonstrated its value. The health department maintains a full-time dental hygienist. Washington County is very proud that 100 per cent of its market milk is pasteurized, mostly grade A.

Grenada County. Tuberculosis remains second only to venereal disease in public health significance. Fifty-eight children were admitted to Crippled Children's Service. Blood specimens for the diagnosis of syphilis numbered 7,356. Maternal health is also a problem which will require a great deal of time and effort.

Forrest County. Forrest County is equipped with x-ray facilities to x-ray all tuberculosis reactors, contacts of active cases of tuberculosis and those suspected of having the disease. All active cases found in the county are referred to a local chest specialist. A planned parenthood clinic is held once a month for mothers in the low income groups.

Harrison County. More than 12,000 immunizations were administered against smallpox, diphtheria, typhoid fever and whooping cough. During the past two years, maternal mortality rates in Harrison County were lower than those for the United States as a whole. Venereal disease rates at the armed forces bases were among the lowest in the entire Southeast command.

Hinds County. Measles serum has been made available to this health department and through it to physicians of the county. Thirty-seven hundred patients were under treatment for venereal disease. The pneumothorax clinic was in operation twice a week and more than 2,000 refills were given. Monthly conferences were held for expectant mothers in community centers.

Jackson County. Nineteen hundred individuals were admitted to the tuberculosis control program and 1,954 x-ray examinations were made. The occurrence of 6 cases of typhus fever shows the urgent need for the campaign now in progress. There were 14,683 immunizations for typhoid fever made.

Jones County. The health department is now housed in the new health center building, covering almost a quarter of a block. An educational program for foodhandlers has been developed to meet local needs. Of the 5,356 children under 5 years of age, 74 per cent are known to be immunized against diphtheria.

Lauderdale County. A photofluorographic x-ray has been obtained to permit the health department to make x-rays on a mass basis. Infants receiving health department services number 1,287. Classes in maternal hygiene have been held weekly.

Sunflower County. The 4,996 dwellings in in one-fifth of Sunflower County have been sprayed with DDT to reduce the malaria death rate. A rat poisoning campaign has been carried out. Foodhandlers have been issued health certificates following examination and immunization.

On the basis of the response and enthusiasm shown for the demonstration program in 1946, the Mississippi State Board of Health plans to repeat and to expand the program of summer internships during 1947. Sophomore, junior or senior medical students desiring such internship for two or more months during the summer should write immediately to the Merit System, Mississippi State Board of Health, Jackson 113, Mississippi, for an application blank.

Applications should be accompanied by a photograph and two letters of reference. As in 1946 the sophomores will be paid $150 a month and the juniors $165. Seniors who have graduated will be paid $333 a month. All expenses of the preliminary one week's training program will be met and fare to the county health department assigned also will be met.

A member of the staff of the State Board of Health will visit any medical school to interview applicants and to explain any further details of the program. For further information write Dr. Felix J. Underwood, Excutive Officer, Mississippi State Board of Health, Jackson 113, Mississippi.

Five students who will graduate from the Medical College of Alabama in June of 1947, were selected for public health internships effective November 1, when they arrived in Jackson for the week's orientation course given by State Board of Health staff members and voluntary health agencies. These young men will remain in the state until about the middle of next year when they will begin their internships to make them full-fledged physicians. The special training which these students will receive in public health will be of value to them in their medical practice and the assistance given to Mississippi in providing more public health service for the people will be a real contribution. This pioneer effort of Mississippi in the field of public health experience has received nation-wide recognition and it is anticipated that it will be continued. These medical students will have an opportunity to meet the physicians practicing medicine in counties where they will work as they coöperate in the disease prevention programs and the experience which they receive will broaden their outlook regarding the practice of preventive medicine.

Mississippi has one of the oldest rural health organizations in the United States and several local health departments have received recognition by the United States Chamber of Commerce and the American Public Health Association for carrying out well balanced programs. The establishment of these internships in Mississippi came about as a result of the shortage of medical personnel to carry out public health programs and the need to acquaint future physicians with the functions of public health.

The Medical College of Alabama was established as a four-year medical school at the general session of the Alabama Legislature in 1943. This is the first group of students to complete their academic work for graduation next summer. The Medical College of Alabama has now acquired the relatively new $4,000,000 Jefferson Hospital in Birmingham. This institution will become the teaching hospital of the medical school. The Jefferson County public health building is to be located in the medical center and is to be erected at a cost of a little more than one-half million dollars.

These five students receiving public health internships, and the counties to which they have been assigned are as follows:

Hugh Bazellell Prayton, Jr., 23, who was born in Alabama and whose home is at Trussville, Alabama, has been assigned to the Lauderdale County Health Department, Meridian, to work under the supervision of Dr. H. B. Cottrell, Acting Director.

Homer Paul Wiley, 23, who was born in Missouri, and whose home is in Marianna, Arkansas, has been assigned to the Pike County Health Department, McComb, to work under the supervision of Dr. K. W. Navin, Acting Director.

James Macon Burnett, 22, who was born in Alabama, and whose home is in Birmingham, Alabama, has been assigned to the Sunflower County Health Department, Indianola, to work under the supervision of Dr. James L. Booth, Acting Director.

Robert Maurice Bryan, 23, who was born in Alabama, and whose home is in Elba, Alabama, has been assigned to the Leflore County Health Department, Greenwood, to work under the supervision of Dr. W. H. Weeks, Acting Director.

David Mitchell Hall, 27, who was born in Pennsylvania and whose home is Birmingham, Alabama, has been assigned to Clay County Health Department, West Point, to work under the supervision of Dr. C. H. Love, Acting Director.

PREVALENCE OF CUMMUNICABLE DISEASES IN MISSISSIPPI

	October 1946	October 1945	October Five-Year Average
Acute Poliomyelitis	31	18	13.2
Bacillary Dysentery	403	481	532.0
Dengue	0	0	.8
Diphtheria	62	191	104.0
Influenza	2454	3254	2941.6
Measles	171	97	143.0
Meningococcus Meningitis	0	1	4.0
Other Forms Meningitis	4	5	3.4
Pellagra	194	175	209.4
Pneumonia	971	747	516.0
Pulmonary Tuberculosis	240	161	152.0
Scarlet Fever	58	93	70.0
Smallpox	1	8	2.2
Tularemia	3	3	3.0
Typhoid Fever	7	8	10.8
Typhus Fever	4	28	14.8
Undulant Fever	10	10	5.4
Whooping Cough	516	343	537.6

PREVALENCE OF CUMMUNICABLE DISEASES IN MISSISSIPPI

	August 1946	August 1945	August Five-Year Average
Acute Poliomyelitis	92	14	30.6
Bacillary Dysentery	706	1197	1241.2
Dengue	1	0	2
Diptheria	39	69	40.0
Influenza	1990	1526	1443.4
Measles	186	175	187.8
Meningococcus Meningitis	3	6	6.2
Other Forms Meningitis	5	4	3.4
Pellagra	195	217	250.4
Pneumonia	718	600	529.8
Pulmonary Tuberculosis	176	131	143.4
Scarlet Fever	21	33	25.2
Smallpox	0	0	0.0
Tularemia	4	5	3.4
Typhoid Fever	15	14	25.4
Typhus Fever	16	46	23.6
Undulant Fever	15	13	9.6
Whooping Cough	643	483	792.6

	Sept. 1946	Sept. 1945	Sept. Five-Year Average
Acute Poliomyelitis	55	13	23.2
Bacillary Dysentery	454	925	774.2
Dengue	0	10	2.2
Diphtheria	53	94	59.8
Influenza	2279	1880	2096.0
Measles	154	85	137.0
Meningococcus Meningitis	4	5	5.6
Other Forms Meningitis	3	3	4.6
Pellagra	195	170	222.4
Pneumonia	898	573	624.2
Pulmonary Tuberculosis	190	137	152.8
Scarlet Fever	47	40	43.4
Smallpox	0	0	0.0
Tularemia	5	4	3.2
Typhoid Fever	10	18	18.6
Typhus Fever	15	37	19.6
Undulant Fever	14	21	9.2
Whooping Cough	477	379	654.6

Until people as a whole are educated to the point where they will cease to wait for pain, weakness, or fear to drive them to their physicians, preventive medicine will continue to be the backward child of medical practice. Edward J, Stieglitz, M.D., A Future for Preventive Medicine The Commonwealth Fdnd 1945.

Woman's Auxiliary

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NORTH CENTRAL MEDICAL AUXILIARY

On Thursday evening, November 14, twenty iary, succeeding the Winona District Auxiliary when the doctors voted to change the name at the state meeting last May, met at the Durant Hotel in Durant on November 14. Their meeting followed the luncheon enjoyed jointly with the doctors.

With Mrs. S. L. Bailey of Kosciusko, president, presiding, the president of the Mississippi State Medical Association, Dr. J. K. Avent, was presented. His talk on passed and pending medical legislation greatly interested the group.

Officers and chairmen for another year were elected: president, Mrs. Edgar Giles, Avalon; vice-president and program chairman, Mrs. W. G. Brock, West; secretary-treasurer, Mrs. H, L, Howard, Winona; *Hygeia* chairman, Mrs. P. B. Brumby, Lexington; Doctor's Day chairman, Mrs. Aaron Barnes, Kosciusko: historian, Mrs. J. J. Kazar, Tchula.

There were seven new members present, bringing the total membership to thirty-one, all subscribers to the *Bulletin*. Special attention is being given to *Hygeia*, with a chairman at work in each county of the auxiliary. This group is only two years old, having been organized with only seven members.

MISSISSIPPIAN ELECTED SECRETARY OF S. M. A. AUXILIARY

The twenty-three members of the Auxiliary to the Mississippi State Medical Auxiliary who attended the annual meeting of the Auxiliary to the Southern Medical Association in Miami, Fla., November 4-7, were justly proud of the election of Mrs. H. C. Ricks of Jackson to the important place of secretary of the Southern organization. Mrs. Ricks has served her own state organization as president and has been a most valuable member for many years.

Officially representing Mississippi were Mrs. Stanley A. Hill of Corinth, state president; Mrs. V. B. Philpot of Holly Springs, councilor; Mrs. E. C. Parker of Gulfport, Doctor's Day chairman, all of whom gave excellent reports.

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Modern Trends in Burn Therapy*

W. H. BRANDON, M.D., F.A.C.S
Clarksdale, Mississippi

DURING THE PAST few years, much experimental and clinical work has been done on the effect of burns and their treatment. The literature is very extensive, with many confusing and often contradictory references. We will consider in this paper only the severely burned patient. The mildly burned patient, with 10 per cent or less of the body surface involved, will usually recover, without too much difficulty.

In the severely burned patient, maintenance of the patient's bodily equilibrium is imperative. There is a loss of extracellular fluids, including salt and plasma proteins from the denuded surface and into the burned tissues. As this condition progresses, hemo-concentration, dehydration and a decrease in the circulating plasma volume will become increasingly evident. Patients do not die from burn trauma itself, but rather from an intractable circulatory imbalance and its sequelae. Consequently, during the first forty-eight hours, during the greatest period of potential shock, large quantities of blood, plasma and fluids are essential. The signs of shock are often late in coming and to wait for collapsed veins, cold extremities, cyanosis, etc., will spell the difference in life and death. If sufficient fluids have been given during the first forty-eight hours, there is frequently no indication for extensive forcing of fluids thereafter. Caution in the forcing of fluids must be observed in those cases complicated by: 1) head injuries, 2) chest injuries (penetrating wounds), 3) burns of the pharynx, larynx or lower air passage, and 4) old age. Excessive fluid administration may bring pulmonary edema in these instances.

Harkins, Cope, Evans et al, reporting as a subcommittee on shock, recommend fluids in the early phases for three purposes: 1) to restore blood volume and to treat shock (chiefly plasma and blood), 2) to provide extra fluid to compensate for loss from burned surface and as edema of injured tissue (plasma and salt solution) and 3) to provide additional fluid for adequate urinary excretion (water and salt solution). Recommended volumes for severe burns (30 to 40 per cent of body surface) for forty-eight-hour period are: 1) 2,000 cc., 2) 4,000 to 10,000 cc., 3) 2,000 to 3,000 cc. The total volumes suggested for the forty-eight-hour period will thus range from 8,000 to 15,000 cc. with the suggestion that close watch be kept for circulatory congestion when the larger amounts are used. For the first three days, it is probably preferable to insert a retention catheter and check the urinary output each eight hours. The use of the oxygen tent is also helpful during the early stage of the burn.

During the first forty-eight hours, the burned area is cleansed with soap and water gently, preferably under anaesthesia, and rapid débridement done. Ten to twenty minutes only should be consumed in cleansing. This should be done in the operating room, with physicians, nurses and attendants masked, gowned and wearing sterile gloves. Thorough débridement is done when conditions warrant, and as clean a surface as possible is obtained for the application of pressure dressings. The use of tannic acid and similar surface film are rapidly becoming obsolete, as is true of the use of the cradle and heat. Actual chilling is to be avoided, but it is now recognized that heat has no place in the management of shock in burns, as we are dealing with the problem of excessive capillary dilatation. The use of pressure dressings aids in the elimination of dead space, into which a constant oozing can take place and the limitation of exudation from the burned surface. It also limits the exudation into the tissues. Dressings are changed from sixteen to twenty-one days following the initial dressing, thus doing away with the pain and trauma of daily dressings. Skin grafts, when necessary, can frequently be applied when the first dressing is removed. Where the burned area is infected, Dakin's tubes are incorporated in the dressings and sterile normal saline injected, usually three or four times daily. In excessively hot weather the instillations are decreased to once daily to prevent maceration from excessive moisture.

Following the period of shock (from forty-eight to 124 hours and sometimes as late as the third week) the period of toxaemia appears, with fever, jaundice anemia, stupor, delirium and circulatory collapse often associated. The period of toxaemia is usually over by the time the initial dressing is to be changed, where pressure dressings are used. A period of sepsis may be superimposed at any time following the shock period, dependent to a great extent upon the time when the wound was first dressed and the ability of the physician to secure a surgically clean open wound. The use of plasma during this stage is superseded by the use of whole blood and electrolytic solutions, in the effort to balance the intake and output. During the early toxaemia period, the massive tissue edema is being resorbed, but fluid, salts and protein are being lost from the burned area, and through vomiting and excessive perspiration. Excessive administration of electrolytic solution, without balancing it by large quantities of whole blood, will cause edema. Beginning edema may be suspected by the excessive perspiration of unaffected areas, by urinary incontinence or by seepage from the site of injection.

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*Read before the Section on Medicine at the seventy-eighth annual session of the Mississippi State Medical Association, May 15, 1946.

The severely burned patient is similar to the nephrotic, in that he sustains a marked loss of unmetabolized protein. This is not only due to the early loss of plasma from the burned surface, but to a slow and constant loss of nitrogenous material in the form of destroyed tissue, pus and exudate from the wound. The losses may amount to one-third of the fed nitrogen. Adequate protein levels must be maintained if edema is to be prevented. The increased need for protein for regenerating tissue and red cell proliferation and the patient's inability to ingest adequate nourishment add to the factors producing the typical negative nitrogen balance and hypoproteinemia. The use of the nasal catheter is necessary, as a rule in these patients, for forced feedings, and protein may be given in the form of amino acids, meat extracts and milk. Vitamins, particularly vitamin C and iron, should be given freely.

Complete débridement is done when the initial dressings are changed, anywhere from the sixteenth to twenty-first day. Shock may be kept down and dressings be made less painful if the dressing is well saturated by the saline one-half hour before dressing, where Dakin's tubes are in place or through soaking of the gauze contiguous to the skin when the dressing is being removed. Asepsis should be used here, just as in the operating room. All personnel in the room should be masked and the bed draped with sterile linen.

Large areas that have been severely burned should be covered with skin grafts as early as possible. This is frequently not only a time-saving measure, but a life-saving one. Grafting should not be undertaken, however, until shock, fluid and electrolytic function, alterations in body protein, edema, toxaemia, renal function, etc., have been controlled. Grafting should not be attempted in the face of spreading or disseminated infection, but may be successfully done where only mild localized infection exists. Skin grafting of deeply burned areas should be deferred until epithelialization of second degree portions is accomplished.

Dissection of necrotic tissue from deep burns should be done slowly, carefully preserving all viable tissue. Bleeding should be carefully controlled, usually by pressure with warm saline sponges, except for ligation of actively bleeding vessels. Skin grafts are applied preferably at the same time, but sometimes have to be deferred, due to the patient's condition. Intermediate thickness grafts are employed, using Padgett or Blair method. Large grafts are sutured in position. Where sufficient skin is unavailable, small grafts are scattered over the area. Urkov has suggested the use of strip grafts. The strips of skin are cut one inch wide and four to eight inches long, according to size of area to be covered. The strips are sutured at each end to the periphery, under strong tension and are placed one inch apart, in parallel rows. Interrupted cotton sutures are placed lengthwise from strip to strip, one inch apart and sutured at either end, thus attempting to prevent the strips from curling. He suggests that the tension will prevent the patch-like appearance of the graft after healing, the donor strip taking in the characteristics of the normal skin of the area grafted.

The use of homografts is sometimes lifesaving in the extremely debilitated patients. Large sheets of thin split graft may be removed from donors and placed, without anaesthesia, on these patients. The usual dry pressure dressings are applied and dressings changed in five days. Frequent dressings in these instances are necessary because there is considerable drainage. These homografts will gradually liquefy, but they often bridge over the gap between the time while the patient is being returned to normal fluid equilibrium and can safely be used for auto grafting. Sometimes, scar formation must be allowed to proceed and months later, the scar tissue removed and grafting done.

Rh typing is mandatory in all burn cases which show transfusion reaction on repeated transfusions. It should preferably be done on all severely burned parts at the earliest moment. The use of Rh negative blood for females under forty years of age is advisable.

Acidosis is not infrequent in the severely burned patient where no fluid therapy has been received for several hours or where the patient has been in shock for several hours. It should be promptly treated.

CONCLUSION

1. Fluid therapy in burns should be directed toward a) rapid replacement of acute deficits, and b) maintenance of daily needs.
2. Massive doses of plasma and adequate intake of electrolytic fluids are mandatory in the first forty-eight hours to ward off shock and support the circulation.
3. Traumas of wide variety increase protein metabolism. In severely burned patients there is a great waste of nitrogen and severe loss of body protein.
4. Skin grafting should be done as early as sepsis will allow.
5. Homographs in the severely debilitated patient are frequently a life-saving measure.

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DISCUSSION

Dr. Stanley A. Hill (Corinth)—Since prevention is of fundamental importance, it must not be left out. It cannot be refuted that one has won the race in avoiding a major burn when it may take months to complete the treatment once it occurs. Burnett and Caswell in the April 6 issue, Journal A.M.A., report three cases of severe burns from inflammable "Gene Autry" cowboy pants. Although sound treatment is outlined, the article concludes as follows: "Material made into clothing should be thoroughly tested as to inflammability being offered for sale to the public."

Having been taught the tannic acid treatment in medical college, I first used this method of other eschar-producing materials. Due to harboring and favoring infection with which all of you are familiar, I discarded this method in favor of foille. Although in both plans, pain and the loss of body fluids must be combatted, the latter has proved, in our hospital, to be an improvement over former methods. The active ingredients of foille are benzocaine, carbolic acid (less than 2 per cent, calcium oleate, calcium and potassium iodides, oxyquinoline base, calcium thiosulfate and sulfur in a vegetable oil base. It is highly antiseptic and a good analgesic.

The essayist has explained the accepted method of treatment. For practical purposes one may consider treatment under three clinical periods; 1) stage of shock, 2) state of infection, and 3) stage of grafting. The adequate control of shock may often save the patient from his immediate danger. The control of infection will render the ultimate phase of the case less dangerous and at the same time minimize the amount of grafting.

Often the first indication is to relieve pain and the resulting shock. Give one-fourth grain of morphine sulphate intravenously, if the patient is an adult, and supplement it as required after fifteen minutes. Depend on relief of pain, degree of contraction of the pupils and the respiratory rate as guides in the amount tolerated.

The method of introducing fluids into the circulatory system may be the next problem encountered. If a suitable vein in an unburned area of the skin cannot be found, intramarrow injections have been recommended. In this method, a special sternal needle is required. It has the disadvantage of leak-back of the fluids and the hazard of osteomyelitis. When the veins of the extremities are in the burned area, the external jugular vein may be employed. In the event of collapsed veins I have found it practical to cut down on a vessel and insert a cannula. Then electrolyte, plasma, and blood all will have an avenue of entrance. The following dosages of plasma have been recommended for the first twenty-four hours:

For 10 per cent of body surface burned, 1,000 cc.; for 20 per cent, 2,000 cc.; for 30 per cent, 3,000 cc.

In discussing the stage of infection, I must apologize that in my small series all cases have become infected. In this connection, I gained comfort from the article describing the cowboy pants burns referred to above. All became infected even in the Temple University Hospital, Philadelphia. The ideal case, though excluded in the scope of the essayist's paper, is one limited in area to a single extremity where one can thoroughly cleanse the part, apply a frosting of sulfanilamide crystals followed by a pressure dressing and find a clean, uninfected wound on inspection at fourteen days. I cite this case as the goal to be striven for and therefore want to stress the importance of surgical cleanliness—cap, mask, well scrubbed hands, gloves and gown—in the clean-up operation.

In the cowboy pants group I was interested to note that the first patient was discharged as well fourteen months after admission. The other two cases are still under treatment after six and eight months. I was scolded by the administrative authority of the Charity Fund for our local hospitals for keeping a burned patient hospitalized about six months. Fortunately, I had applied the last grafts and was able to discharge the patient at the end of the final fortnight of grace. I believe that in localities where the quota of this fund is not used and it would be a big advantage to the case, more than one two weeks' extension is justifiable.

In my hand small "razor" grafts work best. This method is recommended for the amateur. Those better trained and more experienced can, to advantage, use the Padgett method. I have not employed homografts, but am interested to know how practical they are. The prerequisite is that the blood of both donor and recipient cross match. The ideal donor would be an identical twin whose blood cross matches.

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Menopausal Bleeding*

CURTIS TYRONE, M.D.†
New Orleans, La.

IN THE LATTER part of the menstrual life of a woman variations of the menstrual flow are common and their occurrence demands an accurate search for the cause. In this day when the dreaded word "cancer" is thrust upon us from every medium of communication, such as, the press, the radio, the movies and billboards, the first question that the patient in this age group asks is, "Do I have cancer?"

The menopause—the third great epoch in a woman's life—is a time when she experiences the fears of approaching old age, of losing all her womanly charms and of losing her sexual powers. It is easy to see why a woman obsessed with these fears would be emotionally upset. The emotional disturbances occurring during the menopause can never be entirely banished merely by the administration of hormones. Proper understanding of the complexities of the patient's life at this time will go a long way toward helping her to solve her problems.

It cannot be too strongly emphasized that the treatment of patients during the menopause is purely the physician's domain and should not be usurped by overly anxious friends, gossiping neighbors and loving relatives, or by druggists, dentists or nurses. Likewise, the specialists in the various branches of medicine should not take it on themselves to advise women as to the proper course to pursue at this critical period of their life. Fortunate is the woman who places her trust at this time in her best friend, the family physician, who can best guide her during this time, as it is he who knows her many problems and who will realize that her symptoms are not always physical but might be emotional, phychic or sexual. Thus, the family physician must ascertain from a combined knowledge of the condition of the patient and that of the pathologic lesions which might exist the best plan of management to carry her through this trying time.

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*Read before the meeting of the Mississippi State Medical Society, May 15-16, 1946, in Jackson, Miss.

†From the Department of Obstetrics and Gynecology, Ochsner Clinic, New Orleans, La.

Too often in the treatment of abnormal bleeding at the menopause we are concerned merely with the elimination of this annoying symptom without asking ourselves what is to happen to the patient afterwards. Before causing cessation of menstruation, have we taken into account how such a procedure will affect the mental and emotional condition of the patient? Have we assured her that later she will be a normal and healthy individual both physically and psychically? Have we convinced her that after treatment she need no longer have the fear of developing a genital malignancy? My remarks in this connection are prompted by the large number of women whom I see who, because of inadequate previous treatment, later seek medical advice for the continuance or development of symptoms other than bleeding which were not taken into consideration when the original treatment was instituted.

The administration of the various hormones, especially the estrogens, has undoubtedly done as much harm in patients at the menopause as it has done good. The use of any hormone in a patient who is menstruating normally and approaching the menopause is to be condemned. These preparations have no benefit and do harm by possibly creating an alteration in normal menstrual function and serving as a false substitute for the cure or alleviation of various psychic fears in these patients. Furthermore, they may mask some serious pathologic condition which should be eliminated before such therapy is instituted.

I will not burden you today with the enumeration of the various pathologic lesions of the female genitalia which might produce alterations of menstrual function or abnormal bleeding but will confine my discussion to the treatment of menopausal bleeding. Some of my ideas about the care of these patients are somewhat at variance from the prescribed treatment of menopausal bleeding as outlined in standard textbooks on gynecology.

Radiation therapy is one of the most popular agents in the treatment of abnormal bleeding at the menopause. It is probably too commonly used. There is no doubt about its efficacy in controlling bleeding at any age but its use should be highly restricted. Roentgen-ray or radium should never be used without a very careful physical examination, a consideration of the physical makeup or the emotional condition of the patient and preliminary curettage. It should never be administered to patients who are unduly nervous or emotionally unstable. It is contraindicated in the patient with extensive obstetrical injuries, lacerated and diseased cervices, prolapse of the uterus, large myomas, or adnexal disease such as infection, cysts or pelvic endometriosis. It should never be given to patients who have previously undergone extensive pelvic operations and are complaining not only of irregular bleeding but also of pelvic pain. The danger of intestinal injury or degenerative changes in large uterine or adnexal growths or of introducing infection in such growths is too well known to you to elaborate on it here.

What then are the ideal conditions for irradiation in menopausal bleeding? Irradiation should be employed only in the emotionally stable woman, past the age of forty-five, who has not had any obstetrical injuries or previous, extensive, pelvic operations, prolapse of the uterus or suspicious lesions of the cervix but has a normal, freely movable uterus without adnexal involvement.

There is no one accepted method for the treatment of menopausal bleeding which should be used to the exclusion of all others. Women past the child-bearing age (between thirty-five and forty years of age) or in the menopausal decade (from fifty to sixty years) demand that the annoying symptoms of bleeding be eliminated but they also expect freedom from other operative procedures, from the fear of future pregnancies, from the recurrence of future bleeding and from the future development of cancer in the female generotive organs. The physician fails to fulfill his full obligation to his patient unless he individualizes his method of treatment to apply to her particular case.

With the expanding of hospital facilities, the improvement in surgical training and the refinements in surgical technic and with the advances in preoperative and postoperative care of surgical patients, the incidence of hysterectomy has naturally increased and I believe that this is justifiable. Patients complaining of menopausal bleeding associated with the presence of pathologic conditions in the pelvic organs should have the benefit of hysterectomy. However, before such a procedure is carried out the patient should be thoroughly acquainted with what is to be done. She must be assured that removing her uterus is not going to produce a long train of symptoms such as nervousness, hot flushes, irritability, insomnia or insanity, that it is not going to result in her becoming a nervous and physical outcast, that it will not result in the loss of her sexual powers and, lastly, that it will not cause her to become obese. She should be told that by removal of the uterus she will be free of all vaginal bleeding in the future, she will not be constantly confronted with the future possibility of pelvic operations and the danger of the future development of a pelvic malignancy will be abolished.

Lumbar Sympathectomy in the Treatment of Peripheral Vascular Diseases with Case Report of Results in Buerger's Disease

ROBERT R. ROTH, M.D.[†]
Greenville, Miss.

THE AUTONOMIC nervous system is mainly concerned with the control and regulation of the so-called involuntary or automatic functions of the body such as the heart activity, intestinal movements, respiration, glandular secretion, and **vasomotor caliber**[1]. It must be mentioned that this control and regulation is modified by hormones of various types. This is especially true of digestive and endocrine function. This system of nerve cells and fibers is further influenced through emotional states and through the stresses and strains to which the individual is exposed in his work and play[2]. This influence can produce abnormal function with resultant symptoms and can probably initiate definite organic visceral and peripheral diseases which are of both surgical interest and importance.

There are three elements in the autonomic system aside from the central sources in the brain and spinal cord: (1) preganglionic fibers connecting these centers with a chain of (2) ganglion cells lying outside of the central nervous system and (3) post-ganglionic fibers which connect the ganglion cells with the end organs. These elements are arranged in complex pathways and these pathways are divided into two groups: (1) the parasympathetic or craniosacral group; and (2) the **sympathetic** or the abdomino-thoraco-cervical chain. These two divisions have antagonistic functions. In the neck there are three pairs of ganglia: the superior, middle and inferior cervical. In the thorax there is one ganglion to represent each segment, hence twelve in number. At times the inferior cervical and first thoracic are united and this is known as the stellate ganglion. There are usually four ganglia in the lumbar region although this may be variable. These sympathetic fibers supply the viscera and periphery (skin, muscles, sweat glands, blood vessels, etc.) through special nerves and plexuses.

The motor function of the autonomic nervous system is of two kinds, excretory and inhibitory. A functional or physiologic balance between these two activities is maintained by the opposing innervation of the sympathetic and parasympathetic systems, with one or two exceptions (e.g. the sweat glands). (1) The smooth muscle of the blood vessels exhibits an automatic tonus and complete nervous control of these tubes is secured by the provision of two sets of nerves: one set - constrictor (sympathetic) which will increase the state of constriction of the vessels; another set — inhibitor or dilator (parasympathetic) which will diminish the tone of the arteriole muscle and cause vascular ligation. Our knowledge of the existence of this second class of nerve fibers to the vessels we owe to Claude Bernard. (2) Since the arteries are usually in a constant state of moderate contraction (tonus), a dilatation might be brought about by a relaxation of this tone by an inhibition of the normal constrictor impulses proceeding to the vessels from the vasomotor centre. (3) Even greater results might be expected in cases of abnormal increased tone (vasospasm) where no other accompanying vascular disease exists. Using this physiologic principle has led to important advances in the treatment of a great number of peripheral vascular diseases.

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*Read before the Section on Surgery at the seventy-eighth annual session of the Mississippi State Medical Association, May 15, 1946.

[†]Associate staff surgeon, Drs. Gamble Bros. and Archer Clinic, Greenville, Miss.

Lumbar sympathetic ganglionectomy has been a great adjunct in the treatment of a number of conditions which lead to spasm of arteries in the lower extremities. In the ordinary case of Raynaud's disease a resection limited to the second and third ganglia results in permanent cure.

In **arteriosclerotic occlusion** of the lower extremities especially when associated with diabetes there is rarely sufficient arteriospasm to warrant the operation.

In **traumatic injuries** of the iliac, femoral or popliteal arteries, or when these vessels must be ligated for the resection of an aneurysm or arteriovenous fistula, the removal of the vasoconstrictor elements often saves the limb by increasing the collateral circulation. In most emergency traumatic injuries ganglionectomy is out of the question but much can be accomplished by paravertebral infiltration of the ganglia with procaine or alcohol during the early critical period. Experiences with war injuries has helped to emphasize this point. It is infrequent that the aorta is approached surgically but in aneurysms below the origin of the renal arteries wrapping the aorta with cellophane will sometimes affect a fibrosis in the vessel coats and hence an improvement of the condition. This procedure should always be accompanied by removal of the lumbar sympathetic chain.

In **hyperhydrosis** (cases of excessive sweating) the presence of constantly wet, foul smelling feet and the frequent associated fungous infections which may develop in the macerated skin is not infrequently incapacitating. Cures are affected by resection of the second and third lumbar ganglia.

Leriche, Livingston and Holmans as well as others have described relief of pain of **causalgia, pain in amputated stumps**, and the **phantom limb phenomena** by sympathetic denervation.

In recent years, **essential hypertension,** has been treated by lumbar sympathectomy. In carefully chosen cases excellent results have been achieved. Adequate kidney function and minimal vascular changes must be demonstrated before such a procedure is justified. In general, patients over forty years of age have too many organic changes to consider the operation.

In **thrombo-angiitis obliterans (Buerger's disease)** resection of the upper three lumbar sympathetic ganglia should be considered in all younger patients **(usually below fifty).** When the circulation in the lower leg is seriously impaired, particularly if there is any evidence of neurogenic vasoconstriction or increased sweating[4]. The operation will not be of value when the entire femoral artery has been thrombosed or in the presence of sepsis or extending gangrene. Many preliminary tests such as paravertebral ganglion block had been advised in the past but it has been found that these are both unnecessary and misleading since in many cases the resection is followed by a gradual increase in the circulation where an immediate response to the block was not accomplished. Ganglionectomy has distinctly aided many cases of intermittent claudication whether the cause was Buerger's disease or another.

A case of thrombo-angiitis obliterans was recently uncovered in our clinic. It is not a rare vascular disease but it is an unusual one. For years this clinical picture, which now bears the name of Buerger's disease, had been called endarteritis obliterans. In 1908, Buerger pointed out that this name should be discarded since the occlusive lesion is a thrombotic one, affecting the arteries or the veins of the extremities. He proposed the name of thrombo-angiitis obliterans.[5] Many theories have been advanced concerning the causes of the thrombus. Certain clinical features of the disease lead one to suspect that it is of inflammatory origin[1]. Besides the lesion of occlusion there are two other striking changes, i.e, a certain amount of arteriosclerotic thickening and periarteritis. The disease is one of two stages. The acute lesions are only likely to be seen pathologically if the superficial vessels are excised in the acute stage (migrating phlebitis). The media and adventitia are invaded by polymorphonuclear cells as is the perivascular tissue. Both arteries and veins are involved. There is an arteritis and a periarteritis; a phlebitis and a periphlebitis. Only a segment of one vessel is involved but this segment might be long or short. Thrombosis occurs in the inflamed segment and this becomes organized and canalized. The chronic lesions seen in the pathologic laboratory months or years later show complete absence of inflammatory reactions and the arteries, veins, and nerves are bound together in a dense mass of fibrous tissue. The clot has become fibrosed.

There is no sign of the original lumen. New vascular channels lined by endothelium are found in this fibrous mass. The symptoms are not due to the active disease but to the after effects which develop in the chronic stage. Occasionally, during the acute stage, there may be red and painful spots which last about a week due to a migrating phlebitis in the superficial veins of the leg[6]. The symptoms of the chronic stage, before gangrene has set in, are typical. The patient first notices a pain in the calf of the leg upon walking associated with numbness and coldness of the feet in cold weather. The pain is of the "intermittent claudication" type. (The spasm in the calf is relieved by sitting down and elevating the member.) The foot has a characteristic reddish — purple color when dependent (erythromedia) but blanches to a corpse-like white when held perpendicular. There is absence of anterior and posterior tibial pulse, the posterior usually disappearing first. The veins are not prominent, the nails are dry and brittle[7]. In some patients fair comfort is experienced during a day of limited exertion, but the night is approached with dread because of the terrors of the so-called "rest" pains. Its absence during moderate exercise is ascribed to the assistance to circulation which comes from muscular compression of the larger veins[8]. Finally an exquisitely painful dry gangrene appears. Untreated it may affect one leg after the other, the hands, and death may ensue from involvement of one of the important internal arteries such as the superior mesenteric or coronary. There are many variations of this described condition. For the most part it is a disease of the young and middle aged. The sex incidence is striking for the disease is practically confined to men although cases in women are now being reported. In this country it is usually seen in young Russians and Polish Jews but Gentiles may also suffer. W. A. Steel recorded one hundred consecutively observed cases which showed that 90 per cent of those afflicted were of the Jewish race. Average age of onset of symptoms was forty-two years. Arm involvement, 2 per cent; cerebral involvement, 1 per cent; angina pectoris, 4 per cent. A functional leg followed treatment in 80 per cent. Leg amputation was necessary in 19 per cent. Relapses occurred, however, in 31 per cent. There were nine deaths from myocarditis, nephritis, embolism, cancer and suicide[9,10]. Thrombo-angiitis obliterans, then, is not the hopeless condition usually pictured. **Treatment** is approached from three directions. **Systemic treatment,** to build up the general body nutrition; **specific,** directed against a possible spirochetal organism; and **vasodilatory,** to establish a compensatory collateral venous and capillary circulation. The **systemic treatment** should involve confinement to bed, good food, sleep (opiates if need be or nerve block); regulation of bowel habits; elimination of any local foci of infection; exclusion of tobacco; diet; avoidance of general body chilling; protection from local cold; and elimination of worry. The **specific treatment** includes the use of neosalvarsan in the acute stage and bismuth in the chronic. Any number of **vasodilator methods** are used. Local heat induced by hot air, heating pads, x-ray therapy, etc., has been used. Hydrostatic vascular dilatation is tried. Meyer[11] suggested drinking large amounts of water or forcing water through the duodenal tube. In 1935, Silbert[12] advocated direct capillary dilatation by intravenous injection of large amounts of normal saline. High femoral arteriovenous anastomosis was attempted by Babcock[13]. Vasodilator drugs or products given orally, intravenously, or intramuscularly have been given rather extensive consideration. These include, potassium iodine, typhoid vaccine, pancreatic extract and sodium citrate. Such physical methods as the postural exercises as suggested by Buerger in 1924 are used. Alternate negative and positive pressure is of considerable aid. Collins and Wilensky suggest intermittent elastic venous occlusion as a means of vasodilation[14]. The operative measures have been directed toward the removal of the local vasoconstrictor fibers — Leriche did this by periarterial sympathectomy[15], which procedure has since been discarded. Hodley suggested periarterial alcohol injections[16]. Suprarenalectomy or perisuprarenal sympathectomy has been tried as well as division or crushing of the peripheral sensory nerves. It was Adson and Brown who first suggested the use of the lumbar ganglionectomy[17] and this has proved itself to be most efficacious for this condition. It is my opinion that the greatest benefit will be achieved by a combination of suggested therapy. Lumbar ganglionectomy should be done in all cases where there is no associated condition to counter-indicate the procedure. This should be supplemented by restriction of tobacco, rest, heat, postural treatment, Pavaex boot and intravenous sodium citrate with neosalvarsan in the acute stage and intramuscular bismuth in the chronic stage. Finally it is suggested that standing occupations be changed for one of those of a sedentary type and all leg fatigue avoided.

Case Report

Mr. C. W. B., 52-year-old white male, entered the clinic not acutely ill but complaining of lack of circulation in both lower limbs associated with pain in feet and calves, coldness, numbness and parasthesias.

Previous to admission patient's health had been good. As a child he had had the usual childhood diseases and pneumonia with apparent complete recovery. He had been affected with gonorrhea at the age of sixteen but showed no residual effects. Lues denied and serologic test taken was nagative. His mother had died of a cerebro-vascular accident from hypertension at the age of sixty-four. His father died from diabetes at the age of sixty-two. Four siblings were living and well. There was no one in the family with complaints similar to his.

First indication of trouble dated back about one year when he first noted pain in the calves of his legs and coldness of his feet after walking a few blocks. This was relieved completely by resting a few minutes. These symptoms increased during the following months and special note was made of the severity of his complaints during the winter months. He was forced to quit his occupation because he had to walk too far. The symptoms were somewhat relieved with change of jobs to one which required less walking. Three months prior to admission he began to complain of parasthesias and numbness. He then sought relief from his local medical doctor who treated him for "fallen arches". There was no change in his condition until two weeks before admission when rather suddenly one Monday morning, following a rather strenuous week end, he found that walking fifteen or twenty steps would bring on severe pain and "spasm" in his calves and what he described as a "paralyzed feeling". Relief received by sitting down and elevating legs. These pains had always occurred during the daytime until a week prior to admission when he would be awakened every one and one-half to two hours with severe cramping pains in his legs, most particularly the right. Arising and walking a few steps relieved this and permitted sleep again for an hour or two but it was necessary to hang right leg over the edge of the bed. At this time he noted that in this dependent position his legs and feet appeared purple-red in color. The legs then became a cadaver-white upon elevation. There were no changes in the nails. This "dead" appearance and the interference with his sleep promoted him to seek relief at our clinic. At the time first seen, then, his complaints were of pain in the calves (intermittent claudication type), color changes in limbs, coldness, numbness, parasthesias and night pain. There was no complaint of a circulatory nature in the hands or arms.

Physical examination revealed a male patient, of Spanish-French descent, who was well developed and thin. He was not acutely ill but appeared disturbed and uncomfortable. The pupils were normal. The nose and throat appeared normal except for a moderate amount of injection of the pharynx; tonsils small and atrophic; oral hygiene fair; several teeth missing but those present in good repair. There were no palpable cervical nodes. The thyroid was not palpable. Examination of the chest revealed that the lungs were clear throughout. The heart was normal size and shape with clear forceful tones. There were no murmurs. Examination of the abdomen was negative. There were no masses or palpable organs. The abdominal muscles were well developed and there was no tenderness. The genital and rectal examination was negative. Upper extremities were normal. There was definite pathology in both lower limbs, the condition being more marked in the right. The toes and feet were very cold. When in the dependent position the appearance was one of purplish-red which blanched when elevated. In this position both feet actually felt and looked "dead". There was no evidence of ulceration. There was absence of anterior and posterior tibial pulse. The veins were not prominent. The nails were normal. There was active pulsation in the femoral artery.

The temperature was 98.6 degrees F., the pulse 80 and respiration 16. The blood pressure was 130 systolic and 80 diastolic.

The red-cell count was 4,500,000 with 80 per cent hemoglobin. The white-cell count was 6,200 with 34 per cent lymphocytes, 4 per cent monocytes, 60 per cent neutrophiles and 2 per cent eosinophiles. Urinalysis was negative. A blood sugar was taken and was 115. Wassermann was negative.

An x-ray film of the chest revealed clear lung fields and a normal sized heart.

In such a well established case with the presence of its three cardinal symptoms, "intermittent claudication", erythromedalgia, and the absence of pulse the clinical diagnosis Buerger's disease (thrombo-angiitis obliterans) was made. The patient was admitted to the hospital and a bilateral lumbar sympathetic ganglionectomy was carried out through the transabdominal route. There were no remarkable findings on abdominal exploration except for the noted presence of grade II arteriosclerosis in the abdominal aorta. The first through the fourth ganglia with their respective rami were removed bilaterally. The postoperative course was uneventful. The patient sat up on the fourth postoperative day and was up on the fifth. Dermal sutures were removed on the tenth day and retention sutures on the twelfth. Patient was dismissed to clinic care and observation. At this time, the patient was without complaint. His feet and legs were normal temperature and color. The tibial pulsations were not perceptible but there was remarkable collateral circulation. There was no numbness, paresthesia or pain on walking. He has been advised to give up tobacco, to take daily rest periods, to avoid general body chilling, to protect against local cold and to change his occupation to one of a sedentary type. His clinic care has included intramuscular injections of bismuth, much along the lines generally accepted in the treatment of syphilis, and pavaex therapy. His progress has been completely satisfactory and the patient is now able to earn a living in complete comfort.

In summary, sympathetic ganglionectomy has proved to be of great value in the treatment of peripheral vascular diseases. The uniformly good results in chosen cases is to be expected since the treatment is based upon sound physiologic facts.

A typical case of Buerger's disease was reported with excellent therapeutic results from bilateral lumbar sympathectomy. A suggested outline of treatment was described.

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—Murdock Equen, M.D., Atlanta

Pneumococcus Peritonitis*

REPORT OF THREE CASES, TWO TREATED WITH PENICILLIN*

H. R. Shands, M.D.
Jackson, Miss.

THIS DISEASE is comparatively rare and has not been previously presented before this Association or the Southern Surgical Association.

Primary pneumococcus peritonitis is a clinical entity, probably not generally recognized by many practitioners on account of the fact that there is very little about it in the standard textbooks. Through the literature, however, since 1885, numerous cases have been reported and clear descriptions of the characteristics of this interesting disease can be found by reviewing the journals. Nearly one hundred years ago French physicians described a form of peritonitis which was found predominantly in little girls, and which they designated as idiopathic. This disease had a very high mortality and in the cases that recovered not infrequently there was a spontaneous rupture of an abscess through the abdominal wall, most often at the umbilicus. This seems to be one of the distinguishing characteristics among the late symptoms of pneumococcus peritonitis. In 1885 a case was reported in which the specific organism was first clearly demonstrated. Certain authors seem to think that pneumococcus peritonitis occurs, on an average, in about two per cent of the cases of generalized peritonitis in childhood. It occurs most frequently between the ages of three and seven and it has been known to occur in a child of five weeks of age. Some authors insist that it occurs exclusively in little girls; however, undoubted cases have been found in little boys, but not so frequently. It is especially prone to develop in cases of nephrosis.

There is much speculation as to the manner in which the pneumococci reach the peritoneum. The four main theories are, first, through the blood stream; second, through the intestinal tract; third, by way of the vagina with an ascending infection and, fourth, through the lymphatics. The genital route is the one through which the infection most often occurs. The organism has been frequently isolated from the vagina in cases of pneumococcus peritonitis. This was true in two of the cases which will be reported in this paper.

The pathological findings are mostly characteristic of inflammation of the peritoneum from other causes. At first there is edema and cloudiness of the peritoneum associated with enlargement of the glands in the mesentery. Pus quickly forms. This pus is characterized by a yellow-green color. The pus is odorless and numerous fibrin flakes are found in it. The characteristic thing is that the peritoneum is equally involved over the intestines and the appendix no more affected than the other part of the peritoneum. Of course, the main point is always to differentiate pneumococcus peritonitis from perforated appendiceal peritonitis. There is a tendency late in the disease for the pus to collect in pockets, frequently in the anterior portion of the peritoneum, and one of the distinguishing features is the formation of an abscess which points through the umbilicus and at times perforates spontaneously.

Diagnosis

It is very difficult to diagnose the disease in its early stages, as its onset and early progress are similar to that of peritonitis from other causes, notably appendicitis. The abruptness of the onset with a high temperature and an exceedingly high leukocyte count will serve to put one on guard in making a differential diagnosis. Probably one of the most characteristic symptoms of pneumococcus peritonitis, contrary to the other forms, is the marked tenderness and diarrhea in the early stages of the disease. There is early tympanites with marked distention of the abdomen and a generalized involvement of the entire peritoneal cavity with tenderness and rigidity but not so marked as would be found in perforated peritonitis. The fact that there is an associated upper respiratory infection will put one on guard. This does not always occur, but occurs frequently. There is a prodromal coryza, common cold and evidence of pneumonia in some cases. In attempting to make a differentiation of primary pneumococcus peritonitis from a perforated peritonitis, many authors advise abdominal puncture with a blunt needle and aspiration of the contents. If the organism is found to be a pneumococcus the diagnosis is established. There is some argument as to whether this a safe procedure. Most authors contend that it is safe. In a doubtful case, it may be advisable to do this rather than an exploration of the abdomen if the symptoms strongly suggest pneumococcus peritonitis. This procedure would probably be more indicated now than formerly for the reason that we apparently have a specific remedy in penicillin for the disease.

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*Read before the Section on Medicine at the seventy-eighth annual session of the Mississippi State Medical Association, May 15, 1945, Jackson, Miss.

In a review of the literature of the published reports up to this time, I have found no case in which penicillin was used as treatment. No doubt, however, such cases have occurred and have not yet been reported in the current medical journals. The mortality in pneumoccocus peritonitis has been frightfully high, varying from 80 to 100 per cent. The most favorable series found in the literature seems to report a mortality of from 40 to 50 per cent.

Treatment

There has been much difference of opinion among the various authors as to whether operation should be performed in these cases. The results following proper medical treatment, where the correct diagnosis can be made, seem to be unquestionably better. However, the difficulty in diagnosis must always be considered and the possibility of overlooking a ruptured appendix will largely counterbalance the advantage of medical treatment. In the past, good results have been obtained in specific serum treatment and, also, treatment with sulfa drugs. Since the discovery of penicillin and its general use in treating pneumococcal disease, unquestionably the treatment now in cases where the diagnosis can be established would be by medical means with penicillin. My impression as to the proper treatment is that if a diagnosis can be made with certainty of the pneumococcal type of peritonitis, it should be treated medically; however, in most cases, the doubt will remain as to whether or not the appendix may not be the primary cause of the disease. It is believed that in early cases a quick operation, exposing the peritoneum, would probably be advisable. If the characteristic pathology of pneumococcus peritonitis is found, great hope could be felt for recovery under the use of penicillin. Fortunately, there are few contra-indications for the use of penicillin, and in doubtful cases, where one is waiting for the development of symptoms, it would be wise in all cases of peritoneal involvement to give penicillin. The response in pneumococcus peritonitis is prompt. In two of the cases which will be reported in this paper, improvement was so great overnight as to prove the diagnosis of pneumococcus peritonitis to be correct.

Case 1. L. B. J., colored, female, 6 years of age, was seen in consultation with Dr. D. W. Jones on February 19, 1946, at the Mississippi Baptist Hospital. This patient had been admitted on the eighteenth complaining of pain in the region of the umbilicus. On admission the patient's temperature was 102°, her respiration 24; she complained of soreness in the region of the umbilicus and of painful urination. She could not eat, had no desire to eat, and vomited when she did eat. This little colored girl comes from a family where there are thirteen children. Several of the children were sick, one having had pneumonia before the patient became sick. She was treated eight days at home before being admitted to the hospital. Her troubles started with diarrhea, pain in the abdomen and when she was admitted to the hospital she had marked distention of the abdomen, high fever and her blood count showed 28,000 leukocytes and 84 per cent polymorphornuclears. There was unmistakable evidence of peritonitis and the question arose as to the cause of the peritonitis. It was realized that in eight days, as a rule, a person having appendicitis had recovered, died or developed a localized appendiceal abscess. The symptoms which pointed especially to pneumococcus peritonitis rather than a perforated peritonitis were the preceding facts coupled with the history of high fever with diarrhea from the onset of the disease. There was also a history of a slight vaginal discharge in the early stage of the disease. On examination, the chest was clear, there was nothing of note about the mouth or throat; there was great abdominal distention and marked prominence of the umbilicus. It was protruding above the abdomen, almost like the distended thumb of a rubber glove.

After surveying all of the evidence, it was decided that this was most probably a case of pneucococcus peritonitis and owing to the fact that we now have in penicillin a specific treatment for pneumococal diseases, no operation was performed. The patient was immediately given 25,000 units of penicillin every three hours and, also, given intravenous feedings and a blood transfusion on two subsequent days. Within twenty-four hours from the time penicillin was started the fever dropped from 102° to normal and remained about normal throughout her stay in the hospital. After three days there was spontaneous rupture through the umbilicus and a discharge of yellow-green pus, which did not have a bad odor. The patient continued to improve on the usual treatment of peritonitis and a continuation of the penicillin. She had an uneventful recovery and was discharged from the hospital on April 7. She was really kept in the hospital a little longer than she would have been kept otherwise, because of the fact that her sister, who was similarly affected, developed a secondary abscess which prolonged hospitalization.

Case 2. R. A. J., colored female 5 years of age. The presenting symptoms in this case were exactly the same as in the preceding case, with the exception that this patient's white blood count was 28,000 with 80 per cent polymorphonuclears. Her temperature on admission was 103°. This child responded promptly but not quite as favorably as her sister responded. Her temperature returned to normal after two days and then there was a tendency to slight fever to about 99½° to 100° for several days. Patient was admitted to the hospital on February 19, and five days after admission her temperature was normal and remained normal until March 7, when she had an elevation of temperature to 100½° and on the eighth a rise in temperature to 102°. It was then discovered that she had also formed an abscess which pointed at the umbilicus. She was carried to the operating room, given a light anesthetic and an aspiration was done through the umbilicus. Eight ounces of yellow-green pus were aspirated. This pus was sent to the Baptist Hospital laboratory and to the State Board of Health laboratory for culture. A few days later a single puncture was made through the umbilicus and through this a further drainage of pus occurred.

During the time these patients were in the hospital they were kept on intramuscular injections of penicillin of 20,000 units, which were given every three hours. Their response was as spectacular as is the response of pneumococcus pneumonia to penicillin. All alarming symptoms disappeared within twenty-four to forty-eight hours.

Dr. H. C. Ricks of the State Board of Health made the following report on the culture:

> "The report on the transfer culture submitted by Dr. Bratley from R. A. J. is as follows: Specimen received March 6, 1946. The organism was a rather large gram positive lancet-shaped diplococcus together with a few short chains surrounded by definite capsule when stained by the copper sulfate method of Hiss. Upon Loeffler's coagulated blood serum the colonies were moist and discrete. Upon 5 per cent rabbit blood agar the colonies formed a slight halo of hemolysis and formation of methemoglobin with a zone of greenish color around the colonies. The organism promptly acidified and coagulated Hiss serum, water, litmus, and inulin. The organism was bile soluble. The serologic reaction of the organism by the Neufeld reaction indicated it to be pneumococcus type I. I believe that we are justified in identifying this organism as pneumococcus type I."

It is a point of great interest that this culture was taken after the patients had had penicillin two weeks. It was thought that possibly the pus might be sterile, owing to the fact that the fever and other symptoms subsided promptly on the use of penicillin; however, this experience emphasized the known fact that penicillin is bacterio-static and not bactericidal.

Dr. Ricks and Dr. Bratley had no trouble in obtaining a prompt growth of pneumococci from the inoculated pus.

Case 3. P. L., female, 4 years of age. This child was seen in consultation with Dr. Womack in 1920, about the first of February. She was seriously ill. She had an acute pain in the abdomen the preceding night. Her symptoms were confusing because of the high fever and vomiting, and because of the acute onset of the trouble which was more serious than ordinarily occurs in appendicitis. The case was studied for twenty-four hours and a definite diagnosis could not be made; however, both Dr. Womack and I thought it would be best to operate on a diagnosis of acute appendicitis.

At operation we found that the abdomen contained free fluid, of a purulent nature. It had no odor. The appendix was exposed and found not to be more involved than the remainder of the peritoneal cavity. The appendix was removed and owing to the findings at operation a diagnosis of pneumococcus peritonitis was made. She lived six days following operation and died of meningitis. At that time, we of course did not have sulfa drugs or penicillin. We followed the usual treatment, which was entirely futile. In 1920 nasal suction and intravenous medications were unknown. Practically all cases of pneumococcus peritonitis operated upon before 1920 resulted fatally.

The first two cases reported clearly demonstrate that in certain instances the diagnosis of pneumococcus peritonitis can be made. Unquestionably, then, it should be treated medically and not surgically, and a prompt cure may be expected. The third case exemplifies the experience which all doctors and surgeons had twenty years ago in this disease. The mortality then was almost one hundred per cent. In the light of the experience I have had, which is slight, my conclusions for future conduct would be always to bear in mind the possibility of pneumococcus peritonitis when small children are seen with generalized peritonitis. If these children are young girls, the possibility of pneumococcus peritonitis is much more pronounced. We must always remember that by far the most common cause of peritonitis is appendicitis and generalized peritonitis from a ruptured appendix necessitates operation.

DISCUSSION

Dr. D. W. Jones (Jackson)—The practical lesson which we learn from this discussion is to be on the lookout for this rare disease, and to differentiate it from appendiceal peritonitis. Failure to operate promptly in a case of appendicitis might cost the patient his life. On the other hand, operation might be disastrous to the patient if it should be a case of pneumococcic peritonitis. Fortunately, we now have, in penicillin, a specific remedy for pneumococcal infections, which can be applied while we wait for further study of the case. When a laboratory is not available for blood and serum culture, a careful study of the symptoms as detailed by Dr. Shands will help us to make the diagnosis, together with the clinical trial of penicillin. In the case of the two little girls referred to by Dr. Shands, there were five cases of what I took to be influenza. Each of these girls had coryza, cough and a mild type of fever at first. Later, they complained of pain in the abdomen, had mild diarrhea, with vomiting followed by great tenderness over the abdomen and a marked tympanitis. At no time was the tenderness localized over the appendix. I feared appendicitis in both cases and brought them to the hospital, where Dr. Shands was called in consultation, with the results as noted in his paper.

Dr. H. C. Ricks (Jackson)—I wish to compliment Dr. Shands for the presentation and contribution he has made to medical literature. He has certainly demonstrated the qualities of a surgeon in the broadest sense. Many individuals who are considered surgeons would not have exhibited the mature judgment exhibited by him and would most likely have had the same end result that he had with Case 3—a fatal result.

The clinical entity primary pneumococcus peritonitis is certainly not seen very often or is not recognized when seen.

The pneumococcus is a relatively easy organism to isolate from infectious material and is also relatively easy to identify by cultural and serological methods.

Dr. Shands had made a clinical diagnosis on the first two cases before the specimens were submitted to the laboratory. He merely used the laboratory aids to confirm his pre-treatment diagnosis. This is significant and carries out the suggestion of all clinical pathologists that the laboratory alone should not be expected to make a diagnosis. Every known aid should be used in arriving at a correct diagnosis in every case but clinical observation should be developed to such a degree that a positive laboratory finding is not absolutely necessary in making a correct diagnosis in every case.

Dr. H. L. Cockerham (Gunnison)—I have come to the conclusion that I had a case of this kind thirty years ago in a girl fourteen years of age. I had the dean of diagnosticians in Memphis in consultation. There was a difference of opinion as to whether we had a case of pneumonia or not; one thought we did have and one thought the patient had gonorrheal peritonitis. This child died. I am sure she had pneumococcus peritonitis. After she died she had a rupture from the vagina, producing a great deal of pus. Neither of us diagnosed the case, but I am sure now that it was pneumococcus peritonitis. She had, however, some trouble in the vagina before she developed the other condition, and we, of course, did not have penicillin at that time.

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Editorials

The Study of Child Health Services in Mississippi progresses under the direction of the American Academy of Pediatrics and with the full endorsement of the medical profession of the state.

Inasmuch as this is to be a complete study of all health services for children, all individuals contributing to these services share responsibility in the conduct of the Study. Only a small proportion of all medical care given to children is accounted for in the services of physicians who limit their practice to pediatrics. The general practitioner carries the major part of the burden of this care. Therefore the full coöperation of the physician in general practice is essential to the ultimate success of this Study.

All practicing physicians in the state of Mississippi have been asked to do their part by giving conscientiously their share of pertinent information. It is the physician's privilege to participate in collecting data to accomplish the three-fold purpose of this Study; i.e.

1. To determine the distribution among practicing physicians of the load of the medical care of the youth of the nation.
2. To evaluate the status of existing and non-existing health facilities as found by practicing physicians in the medical care of their young patients.
3. To furnish accurate factual data on which future planning for adequate child care can be based.

Distribution of questionnaires to physicians of the state is well under way and prompt return of accurate and completely filled forms will greatly reduce the time required for completion of this tremendous undertaking. The form, simple and self-explanatory, asks for a one-day record of practice.

Complete and accurate information is essential in determining the extent and quality of existing facilities for treatment of children. In furnishing the information requested on these questionnaires the physician will be contributing an individual answer to two fundamental questions, based on personal medical experience and knowledge of the status of youth health facilities in the community in which he practices: To what degree does he, as a physician, carry the load of the medical care of young patients in this community and have the health facilities in this community met his medical requirements in carrying out the medical care he wishes to give his young patients?

When the Study is completed in Mississippi the data will be tabulated, with that of other states, in the central office of the Study of Child Health Services. The results will be made available to the states in tabular form and the information will be used to stimulate local planning for better medical care.

The American Academy of Pediatrics, with the assistance of the U. S. Public Health Service and the U. S. Children's Bureau, have undertaken this tremendous task. The success of the Study, however, is wholly dependent upon the full and prompt coöperation of every practicing physician. With such assistance the Study of Child Health Services in Mississippi should reach a successful conclusion within a relatively short time.

This Study is a challenge to physicians to investigate their own affairs, to discover for themselves the needs within their own communities and to evaluate existing facilities. Unless physicians complete this task successfully and promptly, others less well qualified will do it for them!

Prompt and accurate attention in furnishing the data requested on the physician's questionnaire will make it possible to hasten the availability of pertinent facts upon which to base well-founded plans.

The talk now is the Mid-South Postgraduate Medical Assembly. The doctors of this area are glad indeed it is being resumed. It gives a postgraduate course, a review of medicine and surgery in four days and nights. This association, known throughout the nation, has been very popular. You will note the outstanding men to appear on the program. The medical atmosphere continues to grow in the very fast growing city of Memphis where the medical fellowship is tops. Make your plans at once if you have not. You can not afford to miss this meeting.

You will note the program of the Graduate Assembly in New Orleans. This assembly is becoming outstanding. It was organized only a few years ago, but it held its meetings right on through the war and gained momentum during this time. It furnishes a strong program each year. New Orleans, the great medical center for the South, beckons in March.

In the death of Dr. E. M. Holder, the Mid-South lost one of its anointed in the field of surgery. He was a native Mississippian, liberally educated and endowed with outstanding native ability. He possessed surgical wisdom and his interest in his patient was always sincere. No person ever had a more delightful friend than Dr. Holder. He entered into the pleasures and joys and sympathies of his friends. He was a great surgeon, a great teacher, and a great citizen. From his noble heart generated much of the medical spirit of Memphis. Dr. Holder lived long and well and we acknowledge gratefully his friendship.

We deeply sympathize with the Beacham sons of Magnolia and New Orleans in the loss of their mother, one of the choice spirits of this state. Her husband, Dr. W. D. Beacham, Sr., was a prince in the profession. The sons are likewise. We are sure the mother deserved much credit for the wonderful record the four doctor sons are making, two in Mississippi and two in New Orleans. We deeply appreciate the friendship of the Beacham family and the service being rendered by them.

Dr. G. S. Bryan of Amory is undertaking a most important work for the association, securing a pictorial history of medicine in our state by securing the picture and a brief biography of each doctor, and other facts in medicine. This is of the greatest importance. It is a fine piece of work for Dr. Bryan to do. Let each one do his part to help.

Scholarships are available through the Mississippi State Board of Health for excellent courses in obstetrics, the very best to be found in the nation for four months and even some financial aid while the course is being pursued. This is such a fine opportunity for our nurses and how much we need good obstetrical nurses!

News and Comment

MISSISSIPPI PHYSICIANS ADMITTED TO THE AMERICAN COLLEGE OF SURGEONS

The following Mississippi doctors were formally accepted into the American College of Surgeons in December at the first convocation held since the beginning of World War II:

1942

Jack A. Atkinson, Brookhaven; R. Lee Clark, Jr., Jackson; Francis S. Dixon, Natchez; James C. Green, Tupelo; Archibald C. Hewes, Gulfport; D. Swink Hicks, Natchez; Fred M. Sandifer, Jr., Greenwood; Frank E. Werkheiser, Jackson.

1943

Thomas S. Eddleman, Jackson; Wesley W. Hall, Shelby; H. Carroll McLeod, Hattiesburg.

1944

Martin L. Flynt, Jr., Meridian; Eugene R. Nobles, Rosedale; Ray L. Rhymes, Meridian; Prentiss E. Smith, Hattiesburg; and Harvey M. Williams, Aberdeen.

1945

Richard H. Clark, Hattiesburg.

1946

William H. Cave, Greenville; and Roger Mayo Flynt, Meridian.

Also, at this meeting, Dr. Hugh Gamble of Greenville was elected to the board of governors of the American College of Surgeons, an honor rarely attained by a Mississippian.

PUBLIC RELATIONS ADVISER

At the June session of the House of Delegates of the American Medical Association there were adopted certain recommendations of the board of trustees.

One new departure was, briefly, to the effect that there will be established in the headquarters of the Association a division for the interpretation of the activities of the council, bureaus and other agencies of the Association to the medical profession and to the public, and for this position the trustees will select a man, trained in the field of public relations, such a man to be known as the "Public Relations Adviser".

For this place a medical man should be chosen for the following reasons:

1. A medical man has a background that a layman can not have and can not appreciate,
2. Medical men would have the interpretation made by one of their own group, rather than a layman.
3. The medical man would be something more than a mere "hireling".
4. The medical man being conversant with the medical agenda would be better able to present it to the the public, and the public would feel like it was authentic, coming from a medical source, rather than from a paid publicity "expert".
5. Because of his knowledge of medicine the medical man could, and would, carry a telling story of the progress of organized medicine so that they might know in America there is the best care for indigent as well as the rich patient that can be found anywhere in the world.
6. The choosing of a layman for this most important position is tantamount to confessing to the world that the medical profession is bankrupt of intelligence, devoid of business acumen, ashamed to present its own case and is seeking justification of acts that demand explanations.

HOSPITAL COMMISSION ELECTS

The Mississippi Commission on Hospital Care at a meeting on December 30 held its annual election of officers. Mr. J. O. Slaughter of Columbus was elected chairman, Dr. Henry Boswell of Sanatorium vice-chairman, and Mr. Owen Cooper of Jackson was reëlected secretary. Other members of the Commission are Dr. Felix J. Underwood, Dr. W. Lawson Shackelford, Mr. Carl Blomquist and Mr. Jack M. Montgomery. The retiring chairman, Mr. Jack M. Montgomery, was unable to be present, but the Commission passed a resolution of thanks and appreciation to him for his efficient administration in the organization stages of the hospital program. The Commission appointed Mr. N. W. Overstreet and Mr. S. B. Key to the State Hospital Advisory Council. The Commission also received a report from the executive director, Dr. D. V. Galloway, that there are 117 general public hospitals in Mississippi, sixty of which have more than twenty-five beds and fifty-seven have from three to twenty-four beds. The total number of persons engaged in full-time hospital work in Mississippi is 3,288.

Although it had been known previously that there were approximately 4115 hospital beds in the state, it had never been determined before that there was such a large number of beds available for negro patients. Approximately 1,146, almost one-third of all beds, are for negro patients. This shows that much greater progress has been made in providing hospital care for negroes than has been credited to the state before. There were found to be 2475 beds for white patients, actually reported, while 494 beds were reported without information as to racial segregation.

BI-COUNTY MEDICAL SOCIETY

(Amite-Wilkinson)

The regular meeting of the Bi-County Medical Society was held at Field Memorial Community Hospital at Centreville on Thursday evening, December 12.

The meeting was exceptional for the excellent attendance and fine fellowship. A number of distinguished guests represented the boards of supervisors of each county as well as the board of truestees of the hospital. Mr. W. L. Ventress, president of the board of supervisors of Wilkinson County, and Mrs. Ventress and Mr. Joseph Redhead, member of the board and Mrs. Redhead. Mr. Wilson Clark, president of the board of supervisors of Amite County, and Mrs. Clark and Mr. C. M. Gallent, member of the board. The board of trustees was represented by Mr. Emerson R. Robinson, president, and Mrs. Robinson, Mr. W. H. Catchings and Mr. and Mrs. Edward B. Day, the Honorable Clay B. Tucker, attorney for the Wilkinson County board.

Following a delightful supper served by Miss Boles and her efficient staff—amid an attractive background of beautiful Christmas decorations—an interesting program was presented by Dr. J. Lawson Shackleford of Laurel who is a member of the State Hospital Commission. Dr. Shackleford gave a most interesting talk on the present status of our national hospitalization program, with especial reference to the encouraging progress that has already been made in many of our Mississippi communities.

Dr. and Mrs. Thomas Burk were honored guests of the society. Dr. Burk, who is director of the Amite County Health Unit, was inducted as a member of the Amite County Society.

UROLOGY AWARD

The American Urological Association offers an annual award, not to exceed $500, for an essay (or essays) on the result of some clinical or laboratory research in urology. Competition shall be limited to urologists who have been in such specific practice for not more than five years and to residents in urology in recognized hospitals.

For full particulars write the Secretary, Dr. Thomas D. Moore, 899 Madison Avenue, Memphis, Tennessee. Essays must be in his hands before May 1, 1947.

The selected essay (or essays) will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Hotel Statler, Buffalo, New York, June 30-July 3, 1947.

1947 ESSAY CONTEST

The Mississippi Valley Medical Society, to be held in 1947, will offer a cash prize of $100.00, a gold medal, and a certificate of award for the best unpublished essay on any subject of general medical interest (including medical economics and education) and practical value to the general practitioner of medicine. Certificates of merit may also be granted to the physicians whose essays are rated second and third best. The winner will be invited to present his contribution before the twelfth annual meeting of the Mississippi Valley Medical Society to be held at Burlington, Iowa, October 1, 2, 3, 1947, after publishing the essay in its official publication—the Mississippi Valley Medical Journal (incorporating the Radiologic Review).

PROJECT-O-CHART

For practitioners whose office space is at a premium, American Optical Company has designed a folding Project-O-Chart arm which, mounted on the instrument stand of the A-O 1104 Chair and Unit, permits the Project-O-Chart to be used in a minimum of space where floor, desk or wall models are impractical.

A SURGEON'S PRAYER IN WARTIME*

God of Battle, grant that the wounded may swiftly arrive at their hospital haven, so that the safeguards of modern surgery may surround them, to the end that their pain is assuaged and their broken bodies are needed.

Grant me as a surgeon, gentle skill and intelligent foresight to bar the path to such sordid enemies as shock, hemorrhage and infection.

Give me plentifully the blood of their noncombatant fellow man, so that their vital fluid may be replaced and thus make all the donor people realize that they, too, have given their life's blood in a noble cause.

Give me the instruments of my calling so that my work may be swift and accurate; but provide me with resourceful ingenuity so that I may do without bounteous supplies.

Strengthen my hand, endow me with valiant energy to go on through day and night; and keep my heart and brain attuned to duty and great opportunity.

Let me never forget that a life or a limb is in my keeping and do not let my judgment falter.

Enable me to give renewed courage and hope to the living and comfort to the dying.

Let me never forget that in the battles to be won, I, too, must play my part, to the glory of a great calling and as a follower of the Great Physician.

Amen

Christmas Night, 1941

John J. Moorhead
Colonel, Medical Corps
United States Army.

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*Presented in salute to physicians of our Southland who labored overseas or at home, and to those who gave their all, in the war just ended.

BOOK REVIEW

BANTING'S MIRACLE, by Seale Harris, M.D., Birmingham, Ala., with a foreword by Elliott P. Joslin, M.D. Published by J. B. Lippincott Company, Philadelphia, Pa., 245 pp., 33 illustrations. Price $3.50.

To the hundreds of physicians of this section who know and love Dr. Harris, there is warmth of friendship and personal esteem infusing the pages of this utterly delightful and absorbing biography of Sir Frederick Banting. But *Banting's Miracle* has such breadth of appeal and interest, it will grace doctor's or layman's bookshelf for its biographical merit as well as its opportuneness. It is a gratifying excursion to share in one's own generation the freshness, the vividness and dramatic portrayal of a life to whose greatness and achievement we pay homage. This biography, enriched by the personal friendship engendered by mutual pursuit (Dr. Harris discovered the companion disease of diabetes, hyperinsulinism), colors the dramatic discovery of insulin with highly readable details of Banting's Canadian background, his boyhood, his struggles for an education and the unexpected consummation of his brilliant discovery.

We have in *Banting's Miracle* not so much the story of insulin as the warm, life-like portrayal of the personality of a man whose life and entire effort were dedicated to humanity. So skillfully interwoven are characterization and fast-moving development, the book loses itself in its own story, with the elements of suspense and plot sustaining interest to the final tragic end.

This book is a fitting halo, a tribute, a benediction to one who never allowed recognition to dim the guiding star of his life—service to mankind.

Deaths

DR. ROBERT PRICE

Dr. Robert Black Price, Hinds County physician and former medical missionary ot the Southern Presbyterian Church to China, died at his home in Jackson December 10.

A native of Hinds County, the son of Dr. Thomas Markham and Mrs. Fannie Elizabeth Price of the Bolton community, he had been a resident of Jackson since 1941. He was for twenty-five years stationed at Faichow, China, where he organized and operated the Sarah Walup Hospital until his internment by the Japanese at the outbreak of the war. He returned to the United States in August 1941, in an exchange of internees between the Japanese and American governments.

A graduate of Vanderbilt University, he was a member of the Central Mississippi Medical Society and an elder in the First Presbyterian church. He was a past commander of the Bolton Masonic Lodge.

Besides his widow, Mrs. Sarah Neal Armstead Price, Jackson, he is survived by five daughters, Mrs. W. C. Wells, Jr., Mrs. Robert Stockett, Mrs. Mims Wright, Miss Elizabeth Price, all of Jackson; Mrs. Everett Truly, Jr., Fayette; one sister, Mrs. Beverly Carter, Jackson, and stepmother, Mrs. Mary Price, Jackson.

DR. JOHN D. CARR

Dr. John Dickson Carr, 74, prominent physician on the Mississippi State hospital staff, died suddenly at his home at Whitfield.

A medical officer in World War I, Dr. Carr had been a qualified physician for over forty years and most of his practice was devoted in hospitals for the insane. He was superintendent of the State Hospital for the Insane at Jamestown, North Dakota, before coming to Whitfield.

He was a native of Pittsburgh, Pa., and attended the public schools of Uniontown, Pa., and Washington and Jefferson College. He completed his medical training at Jefferson Medical College of Philadelphia, receiving the M. D. degree in 1897. He began his medical practice at Uniontown, Pa., and was connected with the Pittsburgh Hospital. He remained in the east until 1916.

He was commissioned a captain in the army medical corps and was sent to the Mexican border. During World War I, he served overseas, returning to the United States in 1919. The same year he went to Kansas as a member of the staff of the State Hospital for the Insane at Osawatomie. In 1921 he accepted the appointment at Jamestown, N. D. He was a member of the Masonic order, the Elks and the American Legion. He was a member of the Presbyterian church.

He is survived by one son, Staff Sgt. Wooda Nicholas Carr, of the Army Medical Corps, Fort Sam Houston, Tex.; one daughter, Miss Charlotta Carr, a student at Ole Miss; three sisters, Mrs. Robert Bloom, Mrs. T. J. Gearing, Mrs. Alex Duff, all of New York City; two brothers, Judge W. Russell Carr, and former Congressman Wooda N. Carr, both of Uniontown, Pa. A nephew, John Dickson Carr, a prominent author now in London, also survives.

DR. G. W. MONTGOMERY

Dr. George W. Montgomery, 69, passed away November 27, after suffering a stroke on Sunday before while visiting a brother near Antioch.

Dr. Montgomery was a graduate of the University of Mississippi, and practiced at Lowin for thirty years. He retired several years ago on account of ill health.

He served in World War I in a hospital unit.

He leaves five brothers and three sisters to mourn his going.

DR. J. W. WILSON

Dr. John W. Wilson, prominent local physician, passed away late Sunday afternoon in a Jackson hospital following an illness of several months.

Dr. Wilson, a member of the Methodist church, graduated from Tulane University in 1909, and in 1912 married Miss Frankie Newton, of Lawrence County. He served as a captain in the Army Medical Corps during the first World War, and immediately following set up an office here.

He is survived by his wife; three daughters, Mrs. L. H. Kendall, Milton, Florida, Mrs. L. A. Foshee, Purvis, and Miss Margaret Wilson, Monticello; five sons, Newton Wilson, Hattiesburg, John W. Wilson, Jr., University of Mississippi, George Myron, senior in school of medicine at Southwestern University, Memphis, Thomas Wilson, and Charles Wilson, Monticello; his father, C. N. Wilson, Silver Creek, two sisters, Mrs. Inez Hortzag and Mrs. Wallace O'Neal; and several brothers.

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson
Otolaryngology—Edley Jones, Vicksburg
Ophthalmology—Charles R. Hume
Obstetrics and Gynecology—J. F. Lucas, Greenwood.
Orthopedics—Thomas H. Blake, Jackson.
Public Health—Felix J. Underwood, Jackson.
Pediatrics—Harvey F. Garrison, Jackson.
Radiology and Roentgenology—Karl O. Stingily, Meridian.
Pathology—R. M. Moore, Vicksburg, Miss.
Surgery—W. H. Parsons, Vicksburg.
Urology—Temple Ainsworth, Jackson.

PEDIATRICS

THE SEDIMENTATION RATE AS AN AID IN THE DIAGNOSIS OF ACUTE POLIOMYELITIS—Fox, Max J., and Evrard, John R.—American Journal of the Medical Sciences, 211: 707 (June) 1946.

"From July to November, 1945, there have been 223 cases of poliomyelitis interned at the South View Hospital of the Milwaukee Health Department. During that time more than 100 cases have been sent to the hospital as suspected poliomyelitis. Frank cases of this disease were diagnosed quite readily by the attending physicians. However, the borderline cases and the abortive types caused considerable difficulty in diagnosis. This necessarily meant that the suspected poliomyelitis case was sent to the hospital for a spinal fluid examination and observation. The sedimentation rate aided in ruling out uncomplicated virus diseases from those of bacterial origin and has been a constant comfort in the approach to the diagnosis where spinal punctures were refused.

"The Westergren method of sedimentation rates was used, the normals for this method being 0 to 15 mm. for males and 0 to 20 mm. for females in the first hour. Two determinations were done on each patient. Two-tenths cc. of a 3.8 per cent sodium citrate plus 1.8 cc. of blood were used. The first sedimentation rate was performed between the second and the twentieth day from the onset of the illness, while the second was done from the seventh to the thirtieth day from the beginning of the disease. The average duration of time between the two determinations was 7.8 days.

"Among the first 100 cases the writers determined sedimentation rates on 76. The rates in uncomplicated cases were practically all normal on entrance and also after the end of one week. Of the five bulbar types, including those in extremis, three had a normal rate. Of the thirty-two spinal types, only five presented a slight elevation after the first week. In fourteen of the thirty-nine nonparalytic poliomyelitis cases there was an elevation of the rate on one or both examinations. There was no appreciable difference in the rates on the first or second examinations.

"In this series of seventy-six cases, only twenty-one showed an increase in either or both determinations and eleven of these had elevations of from one to four mm.—a negligible increase. The remaining ten cases had elevated rates from five to twenty-five mm. above the normal value, and four of these cases had concurrent disorders to account for the high elevation. Thus, there were only six cases in the whole series in which an increased sedimentation rate could not be explained.

"The white blood counts on all cases varied between 3,000 and 16,000. At no time was there a marked polymorphoneuclear leukocytosis in the differential picture. The uniformity of the sedimentation rates was not influenced by the slight leukopenia nor the slight leukocytosis. The records reveal variable spinal fluid cell counts of eighteen to 650 white blood cells per cu.mm. There was no appreciable relationship between the white blood count and the spinal fluid cell count."

COMMENT: Although it is apparent that the sedimentation rate is not pathognomonic in the diagnosis of poliomyelitis, yet it is not erroneous to state that the sedimentation rate is quite constantly within normal range. It has proved of extreme value in aiding . . . in the differential diagnosis. We are convinced that the sedimentation rate is of value, not necessarily in making a diagnosis of poliomyelitis, because there are many signs and symptoms of this disease which are by far of more diagnostic value than a sedimentation rate; however the sedimentation rate will give us a pretty good index as to the other possible infections which could be playing a part in conditions similar to poliomyelitis in which the sedimentation rate would be of value in making a differential diagnosis.

State Board of Health

Felix J. Underwood, M. D.

HEALTH EDUCATION IN MISSISSIPPI

Planned programs of health education are being developed in Mississippi on a local basis, county by county, as well as on a state level. The Health Education program was established in 1942 and in 1944 a school health coördinating service was added. These two offices are united under a medical director with a trained health educator as associate director and an administrator for public education as coordinator.

The supervision of the production of health education materials, exhibits, publicity, and circulation of pamphlets and films is in the office of health education. Consultation, guidance, and in-service training programs for health educators in county programs are provided through the associate director of health education.

Six Mississippi counties, Lee, Washington, Coahoma, Jones, Bolivar and Warren have employed trained public health educators who are responsible for organized programs of health education. An additional county will be added to this program on January 1, 1947. Other counties will be serviced as fast as trained educators are available. Two Negroes have been trained and are assisting with programs in Delta counties where the Negro population is greatest. These health educators are paid jointly by public education and public health and are administratively responsible to the local health officer.

It is the function of health educators to help communities recognize and attack health problems. They assist schools, adult groups and health department personnel in a program of planned health education. Many problems have been attacked through educational procedure and organization of groups for study. Some of these are school health programs, nutrition, venereal disease, cancer, tuberculosis, emotional guidance, sex education and maternal and child health.

In Washington County the health educator under the direction of the health officer organized the county for participation in a tuberculosis mass x-ray program. An intensive educational program was carried on with the service program.

In Warren County a survey on the extent of the cancer problem was completed in September. This survey was made by the health educator under the direction of the county health officer. Studies were made on deaths and number of living cases within the last ten-year period. A graphic presentation was made to the medical society by the state director of Preventable Disease Control, Dr. A. L. Gray.

These facts will be disseminated to lay groups by the health educator at the health officer's recommendation.

Bolivar County has a unique program in preservice training of teachers in health education. The health educator is jointly employed by Delta State Teachers College, the public schools, and the local health department. In order to train prospective teachers in standards and objectives for a school and community health education program the health educator is using the college practice school and one of the rural public schools as demonstrations.

Similar programs with emphasis on school health are being carried on in Lee, Jones, and Coahoma counties. The medical examination findings have been used as a springboard for nutrition and health service education. Follow-up work of summer health workshops has been an objective for health educators with local teachers. Through technical materials and guidance, teachers are being aided in providing for integration of health information and healthful living in the school curriculum. Counties not having health departments are serviced with health pamphlets, films, and requested material direct from the state health education division. Community organizations such as Home Demonstration clubs, Parent-Teacher associations, civic and fraternal groups and voluntary agencies are being contacted as resource workers on health education programs and projects. Technical guidance is given from health department personnel.

Negro groups in the Delta have been organized by counties for an attack on venereal diseases through education. Education for Responsible Parenthood study groups have been organized and led by health educators in each of these counties. One trained Negro health educator has been employed in Coahoma County.

The Mississippi health education program has received recognition from several schools of public health. Schools of public health that have sent students to Mississippi for supervised field work are North Carolina, Michigan, and Minnesota. In the past two years Mississippi has supervised a three-month field training program for twenty of these students. Through efforts of the school health service and public health education office, two additional health educators have been trained and placed in teacher training colleges, one for whites at Mississippi Southern, and one for Negroes at Jackson College. Five people have been recruited this year and now in schools of public health. They will return to Mississippi to work.

Materials

Materials continue to be developed for use in many phases of the public health program. Some of the latest pamphlets are the ones on **Veteran Malaria, Fleas, Flies, and Mosquitoes, Breast Feeding and Home Pasteurization of Milk.** Pamphlets, posters, and educational talks are available for lay education upon request.

Exhibits

Exhibits have been prepared on Maternal and Child Health Services, Sanitation, Veteran Malaria, Tuberculosis, and Cancer. At the State Fair in October an exhibit was prepared on a larger scale than ever before. Individual and community responsibility for health and disease control was emphasized on the basis that many communicable diseases can practically be eliminated through proper coöperation among individuals and agencies of a community or region.

Cancer: Miracle Money
Time is Life
On Guard

Infant Care: Health of Mississippi Mothers and Children (filmstrip)
Keeping Your Baby Well (filmstrip)

Malaria: Clinical Malaria

Nutrition: How to Produce Grade A Quality Milk (filmstrip)

Posture: On Your Feet

Tuberculosis: Tuberculosis Facts (filmstrip)
This is Tuberculosis
Routine Admission Chest X-ray in General Hospitals
Techniques of Group Chest X-ray

Infantile Paralysis: Accent of Use
Your Fight Against Infantile Paralysis
Guard Those You Love
Soldiers from the Tropics

Nursing: Nursing

Public Health: Design for Health (filmstrip)
Your Health Department in Action

Slides: Female Anatomy 3¼x4
Venereal Disease 4x4
Maternity Care Slides

Safety: Home Safe Home
Safety in the Home (filmstrip)
Safety in the Streets (filmstrip)
Safety at School (filmstrip)

Safety: Home Safe Home; Safety in the Home (filmstrip); Safety in the Streets (filmstrip); Safety at School (filmstrip.)

The development and provision for all health educational tools are through the cooperative efforts of all divisions concerned with the subject.

Visual Aids: Lantern slide projectors, film strip machines, movie machines, screens, opaque projectors and record players are maintained and circulated for public health educational services.

Publicity: Weekly radio programs, state-wide newspaper articles, and contributions to magazines are on current public health subjects and needs. A special writer is employed for publicity and for assistance with preparation of educational materials.

Requests for information and materials are increasing to the extent that economy of time and funds has presented a problem. This expression of public interest in health subjects and in a desire for health information is a healthy sign, and is most gratifying to those who are endeavoring to enlist the interest of the public in individual and community health.

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MEDICAL LIBRARY

The Library has been able to meet the increasing number of requests for its services in spite of the innumerable difficulties with which it has been confronted throughout the year. At a time when revolutionary advances are being made on all scientific fronts, the Library can ill afford to become stagnant when it can do so much to help put this knowledge into the hands of those who can best utilize it for protecting the health of the state's people. The Library's value to physicians, dentists and public health workers out in the remote areas, is being attested almost daily by requests for loans and by letters of appreciation. Encouraged by this evidence of the Library's far-reaching value, the librarian has strived to put its resources in the best order possible and has aimed constantly toward the goal of keeping it alive and up-to-date in every major section.

The Library is particularly proud of its periodical collection and recently has added to its subscription list the following:

The American Practitioner (new)
Journal of Immunology
Bulletin of the Menninger Clinic
Psychosomatic Medicine
Yale Journal of Biology and Medicine
Journal of the History of Medicine and Allied Sciences.

The Library was able to get on the complimentary mailing list to receive the *Journal of the Mount Sinai Hospital* and the *Medical Annals of the District of Columbia*—both excellent journals. At this point, there seems due some special acknowledgment to the editors and medical library friends who help us to maintain certain of our periodical files. Their contributions over the Library's ten years of growth have been substantial and have increased the reference value of its collection immeasurably. In view of the very limited budget of the Library, these gifts are treasured. Also appreciated are the journals of local physicians, which help to fill in gaps and which provide duplicates for disposal through the Medical Library Association Exchange.

All in all, the Library has a well-rounded collection whose usefulness in keeping physicians and public health workers abreast of scientific developments is constantly growing. The librarian feels keenly her responsibilities in building and maintaining a collection adequate for present and future needs, knowing well that its use can exert a tremendous influence on the quality of health care given the people of the state, and appreciating the opportunity to be able to give medical service to all areas.

It was a great source of satisfactiion to be able to add the following new books during the past few months:

1. Albrecht, Frederick K.—*Modern management in clinical medicine.* Williams and Wilbanks, 1946.
2. Arthur, Grace—*Tutoring as therapy.* Commonwealth Fund, 1946.
3. Bibby, Cyril—*Sex education; a guide for parents, teachers and youth leaders.* Emerson. 1946.
4. Caner, G. Colket—*It's how you take it.* Coward-McCann, 1946.
5. Cantarow, A., Trumper, M.—*Clinical biochemistry.* 3d ed., Saunders, 1945.
6. Carr, Malcolm W.—*Dentistry.* Commonwealth Fund, 1946.
7. Clinics — *Management of allergy in general practice.* August, 1946. Lippincott.
8. Corwin, E. H. L.—*The American Hospital.* Commonwealth fd., 1946.
9. Dahl, Crete—*Housekeeping management and organization for hotels and institutions.* Dahls, 1945.
11. Duran-Reynals, M. L.—*The fever bark tree — The pageant of quinine.* Doubleday, 1946.
10. Duvall, Evelyn M.—*When you marry.* Heath, 1945.
12. Emerson, C. H., Taylor, Jane E.—*Essentials of medicine.* 15th ed. Lippincott, 1946.
13 Farrow, E. P.—*Psychoanalyze yourself.* Int. Univ. pr., 1945.
14 Feinberg, S. M.—*Allergy in practice.* Year Bk. Pub., 1946.
15 Ferguson, Marion—*The service load of a staff nurse in one official public health agency.* Columbia, 1945.
16. Fleming, A.—*Penicillin: Its practical application.* Blakiston, 1946.
17. Ford, F. R.—*Diseases of the nervous system in infancy, childhood and adolescence.* 2d ed., C. Thomas, 1945.
18. Freeman, A. W.—*Five million patients; the professional life of a Health Officer.* C. Scribner's, 1946.
19. Fulton, J. F.—*Harvey Cushing: a biography.* Thomas, 1946.
20. Gardner, M. S.—*Katharine Kent.* Macmillan, 1946
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Woman's Auxiliary

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CENTRAL MEDICAL AUXILIARY

An outstanding social event of the pre-holiday season was the luncheon given by the Woman's Auxiliary to the Central Melical Society, at the Edwards Hotel. The hostesses for the occasion were: Mrs. Frank A. Donaldson, Mrs. T. A. Baines, Mrs. W. L. Waldron, Mrs. B. J. Marshall, Mrs C. H. Denser, Mrs. L. W. Wiley and Mrs. John Carr.

The luncheon tables were centered with artistic arrangements of holly, pine cones and red tapers. A program of Christmas music was rendered by two of Jackson's popular musicians, Mrs. C. R. Gartin, vocalist and Mr. Robert C. Pitard, violinist; they were accompanied at the piano by Mrs. George W. Owen.

Special guests for the luncheon were Mrs. M. H. Bell, Mrs. B. B. Martin, Sr., Mrs. L. J. Clark, Mrs. F. M. Smith, Mrs. George Street, Mrs. L. Ferris, Mrs. J. M. Moore, Mrs. J. A. Kiely, Mrs. R. M. Moore, Mrs. Donald Imrie, Mrs. Charles Hume, Mrs. Joe McKinnon, Mrs. Preston Herring and Mrs. J. A. K. Birchett, all of Vicksburg. Mrs. W. F. Hand, president, welcomed the guests to which Mrs. M. H. Bell, Vicksburg, responded.

The following members attended: Mrs. James W. Caden, Mrs. Tom Blake, Mrs. Lawrence Long, Mrs. Stirling S. McNair, Mrs. Lee M. Lipscomb, Mrs. Van Dyke Hagaman, Mrs. John L. Davis, Mrs. Brister Ware, Mrs. Walton Lipscomb, Mrs. J. Harvey Johnston, Mrs. James A. Chustz, Mrs. Alexander Baines, Mrs. J. T. Weeks, Mrs. O. P. Myers, Mrs. Walter Simmons, Mrs. W. J. Witt, Mrs. Robert Carsley, Mrs. C. H. Heywood, Mrs. C. H. Dunn, Mrs. L. W. Willey, Mrs. I. T. Clark, Mrs. F. A. Donaldson, Mrs. W. L. Waldron, Mrs. F. D. Hollowell, Mrs. Guy R. Post, Mrs. A. J. McIlwain, Mrs. Percy Hudson, Mrs. W. M. Dabney, Mrs. Thomas S. Robertson, Mrs. N. C. Womack, Mrs. Lee R. Reed, Mrs. E. D. Kemp, Mrs. Irwin Trapp, Mrs. Allen A. Lilienthall, Mrs. Ray Biggs, Mrs. L. T. Carl, Mrs. Wildridge C. Thompson, Mrs. Hardie R. Hays, Mrs. T. W. Kemmerer, Mrs. H. R. Shands, Mrs. H. F. Magee, Mrs. Felix Underwood, Mrs. T. E. Wilson, Mrs. W. F. Hand, Mrs. H. C. Ricks, Mrs. C. A. Patterson, Mrs. Peyton Greaves, Mrs. Ewing Gordin, Mrs. Frederick E. Rehfeldt, Mrs. Carter O'Ferrall, Mrs. Francis X. Berry and Mrs. Raymond F. Grenfell.

NORTHEAST MISSISSIPPI AUXILIARY

The members of the Northeast Mississippi Auxiliary met in Aberdeen for the first quarterly session of the year. Gathering at the Evans Memorial Library, the group heard a message on cancer by the state commander, Mrs. Elizabeth N. Wates, who was presented by Dr. W. R. Hunt of Tupelo. Following a brief business session, at which Mrs. Thomas Gore of Houston was elected the new president, and Mrs. Nora Anderson of Tupelo reelected secretary, guests were served tea, and then invited to make an informal pilgrimage to antebellum homes in Aberdeen—the Magnolia, home of Dr. and Mrs. J. M. Acker; Holiday Haven, home of Mr. and Mrs. J. T. Evans, and the Masonic Temple, former home of Mr. and Mrs. Robert Adams.

In the evening the members joined the doctors at the Parkway Hotel for the banquet, which was highlighted by a talk by Dr. B. L. Parkinson, president of Mississippi State College for Women, Columbus, Miss.

Mississippi has 130 hospitals with beds from three to three hundred. This is a greater number of hospitals perhaps than is needed. We need a greater number of hospital beds to be sure, but some consolidations can be a great aid to hospital efficiency, hospital service, and health economy.

Since tuberculosis figures so significantly in the etiology of pleurisy with effusion it is essential that these patients be followed, like any tuberculous person, by frequent check-up and x-ray examinations. J. D. Wassersug, M.D., N.E. Jour. of Med., August 15, 1946.

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Medical Treatment of Calcification of the Supraspinatus Tendon*

H. H. McCLANAHAN, Jr., M.D.
Columbus, Mississippi

CALCIFICATION OF the supraspinatus tendon is not an uncommon cause of pain in the shoulder. By way of incidence, in the last twelve months I have seen seven cases in a practice devoted to the general field of internal medicine. Calcification of the type to be here reported occurs in tendons other than the supraspinatus, but is much more common in this tendon. I personally have not had a case other than supraspinatus calcification but others are reported in the literature[2,9] and the condition is usually designated as tendonitis calcarea. In this discussion, we shall limit ourselves to the syndrome produced by calcification or tendonitis calcarea in the supraspinatus.

The etiology of this condition is not known. All authors that I have read agree that a single, severe trauma is not responsible. By inference it would seem that minor repeated traumas are primarily responsible. Of interest on this point is a survey reported by Bosworth in 1941.[1] He fluoroscoped and filmed 6061 individuals of the "white collar" class looking for calcification in the tendon cuff of the shoulder. Five thousand sixty-one of these were office workers for the Metropolitan Life Insurance Company. The others were applicants for insurance. He found an incidence of 2.7 per cent calcification in the tendon cuff of the shoulder (165 cases) with bilateral incidence in thirty-seven, a total of 202 shoulders. Of these seventy or 34.6 per cent had had pain at one time or another. The incidence in males was greater 3.6 per cent as compared with 2.5 per cent for females. Of particular interest is the fact that the incidence was 3.6 per cent in typists as compared with 1.9 per cent in clerks. Bosworth[1] quotes Codman: "Millions of years of heredity have not prepared the modern stenographer or machine operator to keep his supraspinatus tendons stretched and under tension on the *qui vive* hour after hour, day after day." In other words individuals who use their arms in short, jerky motions with the arm slightly elevated seem more prone to this condition. For example one of the cases I am reporting here is a railway postal clerk who uses his right arm continuously in sorting mail. Focal infections seem to play no significant role nor do metabolic diseases. I have not done blood calcium, phosphorus and phosphatase studies on my cases. These have been done by several other investigators, and in every incidence have been found to be normal.[1,3,4] Calcification in tendons of several species of experimental animals kept on a diet deficient in alpha tocopheral have been reported. Sutro and Cohen[9] gave alpha tocopherol in doses up to 100 mgm. daily to patients with tendonitis calcarea. They conclude, "The ingestion of vitamin E does not have a specific effect on the deposited calcium."

The pathology of this condition seems to be that of degeneration of the tendon fibers with round cell infiltration and occasional giant cells with deposition of calcium salts in the degenerated area. This calcareous deposit is usually hard. Frequently however in specimens excised at operation the calcareous material will be found to be a thick milky fluid under tension rather than a frank calculus. This milky fluid under tension has occasionally been observed to rupture into the subdeltoid bursae giving a milky appearance on x-ray.

The symptoms of calcification of the supraspinatus tendon vary depending on whether the process is in an acute exacerbation or in the chronic stage. Further, calcification can and does occur without producing symptoms. Quoting again from Bosworth's survey,[1] of the 201 cases of calcification of the tendon cuff of the shoulder discovered, only seventy or 34.6 per cent had had symptoms of pain in the shoulder at one time or another. In the chronic stage the symptoms will vary from mild occasional pain in the shoulder, particularly on motions requiring elevation of the arm, to almost constant pain in the shoulder. There is usually tenderness over the shoulder, maximal over the affected area. In the acute stage, the pain is quite intense radiating into the neck and down the arm. Tenderness over the shoulder is exquisite. Remembering that the supraspinatus is primarily responsible for elevation of the arm through the first fifteen degrees, it is not surprising to find these patients with their arms literally bound to their sides because of the intense pain on motion. This pain is occasionally so intense as to require opiates.

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*Read before the Northeast Mississippi Medical Society, Aberdeen, Miss., January 9, 1947.

Several forms of treatment have been advocated. Some[2,10] recommend only rest and diathermy, particularly in the chronic form, others[1,4,10] recommended surgical excision and report prompt relief with no impairment of shoulder function. Lapidus[6] reports excellent results in a few cases treated with novacain infiltration. Others[5,7,8] have reported rather large series of cases treated by irradiation with good results. The average dose used was from 75 to 100 ru at two- to five-day intervals for four or five doses.

The treatment used on the cases I am reporting is not original with me. It was used by Dick et al[3] in a series of cases reported in 1941. The treatment consists simply of placing the patient on large doses of ammonium chloride, 60 to 80 grains a day. In the acute cases diathermy is used. In the chronic cases where the pain is not so intense infra red is advised or some more simple means such as the electric hot pad. No rigid diet is used, but the patient is advised to restrict his intake of alkaline ash foods. I have kept patients on such a régime for weeks with no apparent ill effects. I do advise the use of enteric coated ammonium chloride tablets, otherwise nausea is apt to occur with such large doses. The alteration of acid base balance in attempting to lyse various calcareous, deposits is by no means new, and, as in the case of kidney stones, usually unsuccessful. Calcification of the supraspinatus is the only situation I know in which the calcium does disappear under such treatment.

Obviously where so many forms of treatment exist for a single disorder, none is near perfection. I do believe, however, that this simple medical program gives rather prompt relief of symptoms; and as will be demonstrated on the x-ray films, the calcareous deposits do disappear on this management in a fair percentage of cases. In the acute stage, with the few cases I have observed, the relief of pain on this management is comparable to the relief of an exacerbation of gout by colchichine.

I will give you a brief resumé of the seven cases I have had and show the films on these cases.

CASE 1. Mrs. L. G., age thirty-three, school teacher and housewife, admitted 3/19/46 with severe pain in both shoulders of one week's duration. Marked tenderness over both shoulders. Unable to elevate arms from side. There was no history of severe trauma. She stated that she had had a child who had been ill for several months and that she had been lifting him from his crib quite frequently. Films showed calcification in both supraspinatus tendons. On the right a rounded area 10x12 mm. On the left an irregular, fragmented mass 2x22 mm. in its greatest diameters. She was placed on ammonium chloride gr xv q i d and diathermy for twenty minutes twice daily. At the end of forty-eight hours she was able to reach the back of her head with either hand with only moderate discomfort. She was discharged on the sixth day with only slight pain on motion in either shoulder. She has been followed subsequently. Films taken at the end of a month, 4/19/46, show only two small flecks of calcium on the left. The area on the right is approximately half its former size.

On 6/4/46, there is one small fleck on the left; the area on the right is unchanged. She admitted that since being free of pain in April she had not taken her medication regularly.

On 10/19/46, there is no demonstrable calcium on the left. On the right the area measures 6x12 mm. in its greatest diameters. At that time she was symptom free.

CASE 2. Mrs. F. K., housewife, age fifty-six, seen 3/14/46, complaining of severe pain in the left shoulder for one week. She had had mild intermittent pain for five or six months but severe pain for only one week. She was able to elevate her arm with difficulty up to about twenty degrees. There was tenderness over the tendon of the supraspinatus. X-ray showed two calcifications, one approximately 10 mm. in diameter, the other 5 mm. She was placed on 75 gr. of ammonium chloride daily and advised to use an infra red lamp at home. She was completely free of pain in two weeks. A film taken 4/1/46 shows only a small fleck. A film taken 5/3/46 shows no demonstrable calcium.

CASE 3. E. M. G., white male, age thirty-five, automobile mechanic, seen 8/8/46, complaining of severe pain in the left shoulder with radiation into the neck of one day's duration. No history of severe trauma. Previously he had had mild transient attacks of pain in the left shoulder. Abduction of the arm produced marked pain. Tenderness over the entire shoulder, maximal over the supraspinatus tendon. Unfortunately the films of this patient were destroyed. He had a calcification approximately 4x12 mm. He was placed on 60 gr. ammonium chloride daily and given therapy twice daily for three days. Thereafter he used infra red at home.

In twelve days he returned much improved. Film taken 8/30/46, showed complete disappearance of the calcification.

In the remainder of these cases I have not had long enough to complete a follow-up study. I have only the original films on each of them.

CASE 4. S. E. S., age fifty-nine, store manager, seen 11/12/46. Complained of intermittent pain in the shoulder with limitation of elevation for the past year. No history of trauma. Films show bilateral calcification in the supraspinatus both approximately 4x10 mm. He was placed on 60 gr. ammonium chloride daily.

He lives out-of-town and I have been unable to get him to come in as yet for check-up films. He wrote me, however, that he had had marked improvement in the pain and limitation of motion.

CASE 5. G. S., age forty-six, railway postal clerk seen 11/26/46, complaining of severe pain in the right shoulder of five days' duration. The onset was sudden. The pain radiated into the arm and neck. The shoulder was exquisitely tender, the arm bound to the side. X-ray showed a calcification approximately 5x10 mm. and a second thin irregular area 2x20 mm. He was placed on 60 gr. ammonium chloride daily and told to use a hot pad at home. He returned in one week much improved and returned to his work in two weeks.

CASE 6. Mrs. W. L. W., age fifty-two, school teacher seen 12/22/46, complaining of mild pain in the right shoulder for ten days. The pain was most marked on motions requiring elevation such as combing the hair. She had similar trouble with the left shoulder two and a half years previously and was treated for several months for neuritis with little improvement. A physician in another city found calcification about the shoulder and treated her with diathermy with gradual relief of symptoms. Film of the right shoulder taken 12/22/46, shows a very small irregular calcification 3x6 mm. in its greatest diameters. Film of the left shoulder shows no demonstrable calcium. She was placed on 60 gr. ammonium chloride daily. She has not been in yet for a check film, but I have heard from her and she has improved.

CASE 7. Mrs. W. N. W., housewife, age fifty-one, seen 12/27/46, complaining of severe pain in the left shoulder of three days' duration with radiation to the neck and down the arm. The shoulder was exquisitely tender, the arm bound to the side. No history of trauma. X-ray shows irregular calcification 15x25 mm. in its greatest diameters. She was placed on 60 gr. ammonium chloride daily and diathermy twenty minutes daily for three days. She still has some pain in the shoulder, but is able to raise her arm to the back of her head. A check film taken this morning shows little change in the calcified area.

SUMMARY

1. Seven cases of calcification of the supraspinatus tendon treated by the method of Dick et al[3] have been presented.

2. All cases have improved under treatment. In the three cases that have been followed for a period of months, two have had complete disappearance of the calcium. The third has had marked diminution in size of the areas.

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Some Practical Suggestions in the Management of Asthmatic Children*

RALPH BOWEN, M.D., F.A.C.P.
Houston, Texas

THE ASTHMATIC child is one of the most important patients seen in pediatric practice. He is the child often deprived of routine sports, made to miss school because of illness, forced to forego many foods, and last but not least, if not diagnosed early, may develop physical handicaps which frequently jeopardize his future in a gainful occupation.

As a small infant he may present signs of colic, vomiting, diarrhea and constipation. Excessive sneezing and a blocked nose may produce nursing difficulties. And during the winter months he may have croup and several attacks of so-called pneumonia.

One group of several hundred asthmatics revealed that 20 per cent had eczema as an infant, and that 50 per cent of the eczematous children developed asthma. From these observations, we can appreciate the fallacy in the old saying, "Don't worry, mother, your baby will outgrow his eczema." Therefore, we, as physicians in the management of eczema cases, should realize that we are not only correcting a skin condition but are, also, trying to minimize a later asthma and the complications of other allergies.

HISTORY-HEREDITY

The importance of obtaining a good history cannot be overemphasized. In taking the history we should learn more about his past medical, his environment, diet, and locale. From these points we can better direct therapy.

On careful inquiry you can find that most of these children show a positive antecedent family history of allergy. In our own group 90 per cent had a positive herditary factor.

In keeping with Vaughan[2] we, too, observed that, when the inheritance was bilateral, nearly 90 per cent of the children developed the disease within the first ten years of life. When the inheritance was unilateral, about 30 per cent developed the symptoms within the first ten years.

PHYSICAL EXAMINATION

A complete physical review is essential, and in all cases exclude an organic condition before you make the diagnosis of allergy. Consider the state of nutrition, endocrine possibilities, and foci of infection in all systems.

Roentgenoscopy of the chest and roentgenograms of sinuses should be a routine. Also, make a complete examination of the blood and nasal smears for eosinophiles. Eosinophiles are more commonly found in blood smears during the periods of recovery than at the time of actual attack. Therefore, we consider an increase in number as suggesting that the child is on the road to recovery.

NASAL PROBLEMS

Children who have nasal allergy give the impression of having chronic colds. On awakening they sneeze frequently, and blow from the nose a thin, watery, mucoid material which by 10 A.M is a minor complaint. In other words, their colds get better by noon.

We have noticed that almost all children with chronic nasal allergy develop the habit of rubbing the nose which I have termed the "Allergic Salute." It is done with a side to side, rotary or upward stroke, the latter being the most common. It can be safely said that children who are chronic nose rubbers or mouth wrinklers, can be called allergic until proved to the contrary.

When it is not convenient for a child who suffers from an itching nose to use his hand to relieve the symptom, he attempts to overcome his discomfort by wrinkling his nose or twisting his mouth.

As suggested by Hansel[3], an accurate diagnosis of nasal allergy can be made on the clinical history, the nasal changes, the roentgenography of the sinuses, the bacteriology, the cytology of the nasal secretions and the histopathology of the nasal and paranasal sinuses. There is one procedure which every physician can do irrespective of his specialty, namely, a study of the cytology of the nasal secretions, with particular reference to eosinophiles. Often an infant or a small child who is thought to have frequent colds will be recognized as being allergic by this "nasal smear test."

TONSILLAR AND ADENOIDAL HYPERTROPHY AND INFECTION

The question is raised constantly, "Should I have the child's tonsils removed?"

We have found that over 72 per cent of our children referred because of asthma and hay fever have already had their tonsils and adenoids removed. Many parents were deluded to believe that a cure of the child's asthma would occur. It is our opinion that more conservatism should be followed with reference to operation, and tonsillar disease is not more prevalent in allergic conditions than others. We must also be conservative in doing any nasal surgery during a season when a person's allergic state is causing trouble.

We have observed that allergic children frequently have to have more than one adenoidectomy or tonsillectomy because their pharynxes are usually studded with lymphoid nodules. When such throats are seen be suspicious of allergy. This also explains why the physician may be credited with not having done a thorough original operation. One has to be very charitable when discovering tonsil tags in these cases because there is a tendency for recurrence.

Local treatment. Fewer "nose drops" used in an allergic nose the better. Avoid oily ones since they have been responsible for pneumonic conditions. Never use heavy metals and never give argyrol since it frequently proves most irritating.

Neo-synephrin $\frac{1}{4}$ per cent to $\frac{1}{2}$ per cent is excellent. Privine .05 per cent is also excellent, but use cautiously since it frequently produces secondary congestion.

ASTHMATIC STAGES

Before diagnosing a child as being asthmatic we must exclude all conditions mimicking this condition. First, consider foreign bodies, tumors, mediastinal and pulmonary disease. Eyermann[4] defines true allergic asthma as a recurrent paroxysmal dyspnea, particularly manifested in the expiratory phase, due to an allergic reaction in the bronchioles resulting from the absorption of a substance to which the individual is hypersensitive.

According to Peshkin,[5] we may see the asthmatic syndrome divided into three distinct stages: (1) Respiratory oppression where the child complains of difficulty in deep breathing but no wheezing can be heard. (2) The "wheezing or pre-attack stage" is usually seen following an acute cold.

Some children never go into the typical attack stage. However, some do develop classical dyspneas, or (3) the "attack stage," which occasionally goes into status asthmaticus.

In the event the attack occurs early and too often we see such complications as emphysema and chest deformity. Frequently these children will be free of all asthma until the return from school and activity from play will provoke an attack.

ALLERGIC BRONCHOPNEUMONIA

Many of these children give the history of having three or four attacks of pneumonia during the first few years of life. Characteristically, their pneumonias are severe but of short duration. In the older child of this type, we often see special nurses called as an emergency and the next day this same child is able to greet the physician at the door.

As a routine, when such a condition occurs, we give one or two minims of epinephrine and repeat as indicated. After such treatment there is frequently an immediate drop in temperature. Miller[6] and others have shown that in this condition there may be a fever as high as 106° F. (41° C.) or no fever at all. On roentgenogram you may find little pathology but when present it is usually in the lower lobes near the mediastinum. Occasionally the acute may develop into a more chronic form. Complications are rare and the prognosis excellent.

One may also see a syndrome of transient pulmonary infiltration with associated leukocytosis and eosinophilia. This eosinophilia may be as high as 50 per cent. It is of benign nature and non-responsive to sulfa drugs. This group of symptoms has been called "Loeffler's Syndrome."

FOOD AS A FACTOR

The nutritional history of the asthmatic infant frequently divulges colic, vomiting, and diarrhea. Numerous formulae changes are tried.

Although the majority of asthmatic children under ten years of age are difinitely sensitive to one or more foods, there is only one child in a hundred sensitive to food alone. In addition, we must always consider environmental factors and infection.

In caring for the asthmatic child one is impressed by the fact that these children's diets are frequently unbalanced. Many times important foods are excluded for too long a period. Therefore, it behooves us to provide a suitable diet, even at the expense of permitting some symptoms to recur or persist. We must also remember that we are treating the child as well as his asthmatic condition.

Wheat: In instances where wheat is the factor we must remember that rye bread is 20-35 per cent wheat. It is also found in certain meats such as wieners, used as a filler, in some brands of corn, and often in salad dressings. Corn bread bought at cafes usually contains wheat, and this is also true for some buckwheat flours.

Minerals: On an empirical basis we give dicalcium phosphate to this group of children. So that where there is true milk sensitivity we give the same mineral equivalent as found in milk.

Cottonseed oil: This is commonly found in Wesson oil, Crisco, oleomargarine, packing sardines and tuna fish, olives, anchovies and mustard, as well as in salad dressings and used in frying potato chips and doughnuts.

Egg: At present, pediatricians advise the early inclusion of egg yolk in the young infant's diet. In any case where there is a definite allergic background, this program should be followed cautiously.

Any child sensitive to egg cannot tolerate the amount found in baking powders. Where such cases exist we must use "K.C." and "Royal" baking powders, for these are known to be free from egg.

Any patient who is extremely sensitive to egg will have to exclude all egg-containing foods, and some will find it necessary even to exclude hen meat. Remember that egg white is far more allergic than the yolk. Therefore when later added to the diet start out with feeding the yolk.

It has been shown that egg is a common offender since it has the lowest coefficient of digestibility of any protein.

Milk: Ratner[7] has noted that "dried powdered milks" are more likely to precipitate a potential allergy, and suggested that instead we use "unsweetened evaporated milk," thus making for more complete digestion and diminishing the probability of the absorption of native antigens through the intestinal wall.

One can, in the home, further super-heat the unsweetened and evaporated milks by placing the unopened cans in boiling water for fifteen to thirty minutes.

Milk Substitutes: Mulsoy is a soybean mixture and an excellent preparation for the known milk allergy case. Some children may have an increased number of bowel movements on Mulsoy. Also remember evaporated goat's milk. My experience with Nutramagen has not been good.

Sugars: One always has to consider the different carbohydrates used in the infant's formula. Ratner[8] has shown that pure corn syrups, pure dextri-maltose, and crystalline sugars play no role in allergy. Dextri-maltose containing wheat germ or yeast may be definitely anaphylactogenic, and particularly malt preparations, since the original protein constituent, hordein, present in barley, is a frequent trouble maker. I have never seen a proved case of allergy to cane sugar.

Vegetables: Today the allergist and pediatrician must be familiar with the various brands of canned baby vegetables and soups, for often these contain an offending food. It is best to give non-mixed vegetables and to rotate the menu.

Antirachitic Oils: We have shown that cod liver oil and other antirachitic oils have at times been responsible for "upsets" in the eczematous and asthmatic child, and in such cases we have successfully been able to substitute "Carotene with vitamin D," Smaco product 525—now known as Provatol by Wyeth, and is put up in a Sesame oil base. The dose for infants, eight drops; children one to twelve years, the dose is twelve drops.

Vitamin C Foods (Orange-Tomato): At times both orange and tomato juice are poorly tolerated, but fortunately this situation can be met by giving vitamin C. Occasionally, the orange juice can be tolerated if strained through a fine mesh, and one should avoid the volatile oils from the rind, by using light pressure during squeezing.

Investigation of allergic patients reveals a normal blood level of vitamin C. Contrary to popular claims I have seen no benefit from the administration of large doses of vitamin C.

Often we are asked what value there is in hyposensitization of foods by injection. In our experience, it is a method not free of danger, and as a routine procedure it is condemned.

ELIMINATION DIETS

The exclusive management of any asthmatic child by the elimination or trial diet will prove a failure in over 90 per cent of all cases since this régime does not care for the inhaled or contact substances. One should always keep uppermost in his mind known facts and should endeavor to use common sense. For example, if positive skin reactions are obtained, one is not justified in saying these foods should never be eaten, because there are two possibilities: First, it is known that sensitization is usually multiple and that some children give positive reactions to foods before they are clinically sensitive. Secondly, there is the other extreme that a positive skin reaction may be retained after an apparent clinical cure has been effected.

Therefore in arranging a diet remember it is imperative that you specifically state which foods can be eaten and not just say your child should not eat the following. Remember, that some allergic patients can handle some foods perhaps once a week but not on three or four days in succession. It is not necessary to remove foods for intervals of months as we once did because if good effect is going to be established it should be manifested in a matter of days—providing environmental factors are also controlled. Remember, too, that food testing gives less than 40 per cent reliable information.

FOOD DISLIKES

We do not believe that any definite statement can be made in regard to the relationship of the child's appetite and his symptoms. Some children are very fond of certain foods to which they are sensitive and which have been proved to be toxic for them, while others have a strong dislike for the majority of foods to which they are sensitive. There is convincing evidence that some children are so mildly sensitive to foods that it may require days before symptoms are produced, which probably accounts for cyclic phases of symptoms. We may conclude, therefore, that while dislikes may occasionally be indicative, they cannot be accepted as a true guide.

SPECIAL REFERENCE TO FACTORS IN AND ABOUT THE HOME

For consideration of these facts, let us follow a child through the home during his daily route and observe those things which might precipitate an attack of asthma.

BEDROOM

Temperature and Winds: The bedroom is the most important room of all, for here the child sleeps and plays. One should be very particular about the temperature, for during rainy or cold nights the damp air will frequently produce coughing spells and asthma. So, insist that all windows be closed on such nights and secure indirect ventilation from another room

In the summer, winds from a nearby weed field, gin, or factory will carry allergens responsible for an attack of asthma. Therefore, it is well to arrange the bedroom on a side of the home with least wind. Many asthmatic children are upset during rainy periods and frequently act as "storm barometers."

Mattress: Very often the mattress contains substances which produce difficulty. To minimize such conditions, it is advisable to cover the mattress with stork sheeting.

Pillows: The average child "buries his nose" deeply into a pillow about eight hours out of every twenty-four. Since feathers are common offenders, we urge that all pillows be covered with a good grade of rubberized silk or stork sheeting, with French-sewed seams, which will aid in minimizing mold growth. A pillow is always preferred, since it eliminates to a degree, dust from the mattress. Remember children become kapok sensitive and under no circumstances can kapok be used by a cotton sensitive individual. One of the most satisfactory pillow and mattress coverings can be obtained from the Expert Bedding Co., 2454 North Halstead, Chicago, Illinois.

Blankets: Some children are troubled by woolen blankets, and as a routine we advise the use of cotton covers.

Clothes Closet: Here the child frequently keeps his toy box as well as clothes. In this way, he subjects himself to various materials, such as silks, furs, molds, and dusts. Closets should be carefully cleaned and kept clean in order to eliminate the above offenders.

HOUSEHOLD PETS

Usually the first to greet a child in the morning is his dog or cat. Often the parent or friend will obtain for these little patients some type of household pet for the sake of companionship, paricularly since these children cannot participate in competitive play as freely as the average child. Therefore, warn the parents that all pets, such as cats, dogs, chickens, rabbits, mice, guinea pigs, and birds are poor friends, and recommend as suggested by Vaughan[2] an alligator or gold fish. It is an excellent general rule that an allergic person should have no household pets. Therefore, if a child is found sensitive to pets, the procedure is obvious. Remember that these animals shed their hair and dander all over the home, so that after getting rid of the pet it is necessary to clean all furniture thoroughly with an electric vacuum cleaner.

HOBBIES

Glue Sensitivity (Stamp Collecting, Kite Making, Airplane Making): Many children when confined indoors develop hobbies of pasting pictures or collecting stamps in books. Recently we have had two children who developed asthma while arranging their stamps in books. In each case, Le Page's glue was being used. This suspected sensitivity was confirmed by further testing. Le Page's glue has a fish base and is one of the most troublesome of all. United States postage stamps have no glue on them. The post office department claims that only a vegetable adhesive is used.

The kite and airplane maker is frequently exposed to glues. Therefore, it is important to find out a child's hobbies in order to appreciate his environmental exposures.

COSMETICS AND OTHER POWDERS

Face Powder (Orris Root): In the past the average asthmatic child was literally bombarded with this common offender—orris root—which was originally obtained from the root of the iris plant. Most powders contained this common ingredient. It is in many scented face powders, body powders, talcs, bath salts, face packs, astringent packs, cleansing powders and creams, scented tooth powders and shaving powders, soaps, many hair tonics and some perfumes.

To protect a child against this factor in the home, one should obtain orris root-free cosmetics. At the present time, there are several brands on the market, such as Marcelle, Almay, Mansfield, Frost, Non-Allergic and AR-EX. There will be some patients who continue to have trouble from orris-root-free cosmetics, and when this is true, it is necessary to try others. At times, cosmetics will contain various cereal flours, such as rice, wheat, oatmeal and corn flour. Remember too that perfumes can provoke an allergic upset.

Always warn the child who is orris sensitive to tell the barber not to use hair oils or powders on his hair, for they may be the cause of an attack of asthma. Also, remember that the church and movie are environments containing orris root. Therefore avoidance is nearly impossible, and in some cases, hyposensitization is indicated.

Insect Powders (Pyrethrum): Nearly all insect powders or sprays contain pyrethrum, a substance obtained from a species of chrysanthemum. These at times produce severe attacks of asthma, particularly in those who are ragweed sensitive. One has to warn mothers about the danger of insect sprays and furniture de-mothing agents which contain this product. Safe substitutes are "Cederene" or "Killiti"; both contain Lethane 384.

MEDICINE CABINET

There are several children who have typical allergic reactions after taking certain drugs. Aspirin and quinine are perhaps the most frequent offenders. Another common allergen is phenolphthalein, found in many laxatives, such as "Phenolax," "Alophen," and "Feenamints," and is often responsible for the "week-end" attack. Also, beware of iodines and some arsenic preparations. In other words, a physician should always make inquiry about other prescriptions which may have been used and always ask if any proprietary preparations have been recently administered.

HOUSE PLANTS

The pollens of the majority of beautiful flowers are heavy and therefore not windborne. However, when brought into the home, due to proximity they are sometimes responsible for hayfever and asthma. Also, remember that pollen from the climbing vine near the bedroom window, from nearby trees or vacant lots may cause much difficulty.

FURNITURE

Certain pieces of furniture, rugs and draperies may contain various animal hairs responsible for trouble.

BATHS

It is a good plan to bathe the asthmatic child in the morning and not during late evening. Very often the evening bath produces chilling, particularly in those cases who are prone to perspire excessively.

FATHER'S HABITS

Although smoking is not limited to the male, we have to be careful about father's pipe and cigar ashes and restrain him from excessive smoking, for tobacco smoke often acts as an irritant.

At times an avocation—horseback riding—may be a cause of the child's asthma from the dander on the father's riding habit. At other times a vocation—cow milking—may be a cause of the child's asthma from the cow dander on the father's overalls.

HOUSE DUST

During house cleaning, the asthmatic child should be out of the home, since it has been observed that house dust is a universal offender. The specific factor is not definitely known but is probably a mixture of many allergens, including animal hairs, feathers, silks, and molds. To date our best dust antigen is the one perfected by Dr. B. G. Efron—distruibuted by the Endo Products Company.

METHODS OF TESTING IN ALLERGY

Skin tests are one of the most valuable aids in studying the allergic child; however, we have found them of little help in the child under twelve months of age.

In general one could say they have an efficiency for foods between 30 and 40 per cent, and for environmental factors and pollens of nearly 90 per cent. These figures depend on activity of testing substance, site of application, and the investigator.

Scratch testing should always be the first procedure to insure safety and avoidance of systematic reactions. But intradermal testing should then be used on all scratch negatives.

The number of tests to be applied will depend on age of patient and symptoms. Past the infant age it is a good plan to test for foods, pollens, and environmental factors.

Usually we first apply ten tests in parallel rows, and then wait ten or fifteen minutes and read. Delayed readings are made twenty-four hours later.

In doing intradermal testing one should always test for cottonseed last since it occasionally causes a heavy reaction. Under no circumstances should fish oils or glues be tested intradermally, and remember, spinach frequently gives a positive reaction. The citrus fruit group or strawberry, because of their low protein content, rarely give a positive response.

The question of how many proteins should be used in testing a child is often asked. For the child under three the food tests can be limited, but past this age we do the same group as is used in the adult. The epidermal group is the same in either child or adult. The pollens are in keeping with time of symptoms and place of residence.

A simple rule to remember is that the trees pollinate in the spring of the year, grasses during the summer, and weeds during the fall.

Child psychology is challenged in doing allergic work. In testing, we always first test on the arms, in order that he will appreciate the procedure. Some children develop much anxiety and true fear during testing. Theoretically, we have often wondered if this squirming child at such times could be producing epinephrin in excess and so influencing the skin test results.

Other tests such as the ophthalmic, the nasal membrane, and passive transfer tests of Prausnitz-Kustner are of little use in pediatric allergy except for the latter in studying a severe eczema.

WET SLEEPERS

In taking the history of an allergic child, I always make special inquiry about the degree the child perspires while sleeping. The type classified as the "wet sleeper" is the one whose forehead is beaded shortly after retiring and whose pajama neck is wet. At times the perspiration may be of such degree that one may wonder about nutritional imbalance or evidence of disease. It is this type of child who tolerates ephedrine poorly, and may present the chain of symptoms, such as irritability, headache, vomiting, and insomnia. I prefer propadrine hydrochloride for the "wet sleeper" since its action is mainly peripheral and does not have the cortical feature which is so often seen after the use of ephedrine.

I don't wish to convey the impression that the above is to be taken dogmatically, but, clinically, the simple division of children into the groups of the "wet" and "dry" sleepers has been a practical guide in the prescribing of ephedrine and epinephrine. I believe this excessive perspiration signifies an imbalance between the two nervous systems.

DRUGS FOR THE ASTHMATIC CHILD

Epinephrine (Adrenalin): Of all the drugs employed in the treatment of allergic conditions, epinephrine 1:1000 is, without question, the most valuable. This drug is the asthmatic's best friend, and, emphatically, is not habit forming. In times past it has been used only in the final stages of asthma and frequently administered in too large quantities. It is of little value in hay fever, except in the treatment of constitutional reactions. Also, it is of some value in urticaria (hives) and angioneurotic edema (deep hives), particularly in acute cases.

Kinds of Epinephrine (Adrenalin)

(a) **Epinephrine 1:1000** (Lederle, Winthrop and Parke Davis).

Dosage: Children from one to five years, two to three minims. Children from five to ten years, give three to five minims. The second injection may be repeated in twenty minutes, and the third injection may be given two or three hours from the first.

(b) **Epinephrine in Oil 1:500:** Dosage: ⅓, ½, and 1 cc.—Action prolonged.

(c) **Epinephrine 1:100 Inhalation**—of little value in children under six years of age. All patients should be instructed to rinse mouth after using inhalation to minimize throat dryness and gastric distress. One of the best nebulizers is made by the Vaponephrin Company.

Special Comment About Epinephrine: Epinephrine and adrenalin are synonymous terms. The latter is a patented word, and for this one must pay at least $1.25, sometimes $1.50 an ounce. Epinephrine made by Lederle or Winthrop will do everything as far as relief is concerned. Lederle or Winthrop's epinephrine sells for 85c an ounce or less. Warn patients not to purchase 1 cc. ampules. Usually only one fourth of the vial is used, which means that a 15c vial actually costs 60c or the equivalent of one ounce costing $18.00. By purchasing Lederle or Winthrop's epinephrine in one-ounce bottles for 85c there is a saving of $17.15.

Aminophylline (Theophylline Ethylenediamine).

1. Very good for children who have become "epinephrine fast."

2. Dosage for intravenous administration is from 0.24 to 0.48 gm. (3¾ to 7½ grains) in 10 cc. or 20 cc. of distilled water or glucose. Inject slowly through a 26-gauge needle.

Aminophyllin's best effect is when it is given intravenously. It comes in two strengths: 3½ and 7¾ grains, in 10 cc. and 20 cc. of saline. Always give aminophyllin very slowly, and allow ten minutes for administration. Reaction, such as a feeling of heat, a burning in the eyes, a sense of constriction in the chest, nausea, vomiting, and, at times, convulsions and coma, may occur. Also, the solution may sclerose veins or cause excruciating pain should aminophyllin get under the skin. Aminophyllin by mouth is reported by some to have merit. Searle makes an excellent preparation.

Ephedrine Sulfate of Hydrochloride: The usual dosage is 0.015 to 0.03 gm. (¼ to ½ grain). In many cases phenobarbital must be included to minimize nervousness. Many children cannot tolerate ephedrine.

Emetics: Attack may be terminated by giving one to two teaspoonfuls of ipecac. If this fails to relieve, then apomorphine hydrochloride in doses of .003 grms. (1/20 grain) may be given hypodermically. Although advocated by some, I have seldom had to use this procedure.

Fluids: Hot sweetened liquids should be pushed to prevent an easily induced acidosis. If vomiting is present, glucose by vein will serve usefully. Salt is restricted.

Atropine: This can be used in attacks but is rarely of value. Atropine should not be given in the presence of an intercurrent infection. Its effect being one of drying frequently defeats our problem.

Gases: Oxygen is usually effective in combatting anoxia. Masks or nasal catheters are preferred to tent units since they allow no nitrogen accumulation. In some oxygen 20 per cent plus helium 80 per cent is preferred.

Iodides: Various preparations of iodides have been recommended. It is difficult to excel plain potassium iodide or syrup of hydriodic acid.

Special Tablets by Mouth:

1. Propadrine hydrochloride, ⅜ grain, is ideal for children who cannot tolerate ephedrine. For older children, ¾ grain.

2. Amodrine by Searle is excellent. Small children, ½ tablet.

3. Arlcaps by Arlington (grains three and five) are excellent, but remember they contain aspirin, if the patient has an aspirin intolerance. Grains three is for children and grains five is for adults.

4. Ephedrine preparations are satisfactory, providing side effects are minimal.

5. Neo-Synephrin by mouth has little merit, in my opinion.

6. Tedral is excellent but ephedrine content affects some children.

7. Amesac by Lilly is also excellent, but remember it contains ephedrine.

8. Padrophyll contains both propadrine hydrochloride and theophyllin. Splendid for asthma.

Ether and Olive Oil Enemas: Occasionally a mixture of equal parts of ether and olive oil are effective, in amounts varying from 60 to 120 cc.—and make sure that the buttocks are vaselinized to avoid burning

Chermotherapy: Recently certain cases of asthma, and particularly those of an infectional premise, have been benefited by the giving of sulfanilamide, sulfapyridine, sulfadiazine and sulfathiazole. Before using any of these make sure that a total blood study and urine examination has been made and repeated every forty-eight hours during the drug administration. In the event of toxic manifestations, the drug should be stopped immediately. And now or most recent is penicillium for asthma due to infection.

Iodized Oil: This procedure is passe. Its use is limited to but very few cases, and in a large series of cases it was responsible for many deaths.

X-Ray Therapy: There are a few cases where this has merit, but, at present, it has been overpopularized by some.

Morphine: One is nearly justified in making the dogmatic statement that this drug should never be used in asthma. Its danger lies in the fact that it knocks out the cough reflex and these patients drown in their own secretions.

On rare occasions exhaustion of the patient may, seemingly, justify morphine, and if it is used, the dosage should be very small.

Morphine should never be used in children.

Miscellaneous:

1. Potassium chloride and potassium gluconate by mouth have proved worthless.

2. Calcium preparations by mouth, and in the vein, have been disappointing.

3. Histamine and histaminase are now under critical review. Torental is worthless.

4. Vaccine therapy has merit in certain selected cases. I have seen no advantage of autogenous vaccine over a good stock vaccine.

5. Ethylene Disulfonate. Present newspaper articles have heralded ethylene disulfonate as the wonder drug for 1944. Dr. Chauncy Leake, professor of pharmacology, and dean of the University of Texas Medical School, reports it has been an old story in California for years. From a scientific point of view the claims of Spicer, its originator, could not be duplicated. And, as predicted by one of our members, it will eventually rest in the limbo of forgotten therapeutic agents.

6. Hapamine has been responsible for some severe reactions. If it later proves to have any value it will be most limited. When given to six known cases of true ragweed it failed in each.

7. Vitamin C to the allergic patient has proved of no value.

8. Latest approach: Dr. A. V. Stoesser of the University of Minnesota successfully used pitressin and a low salt diet in some cases who failed to respond to the routine management.

Special Comment: In using any drug, first, individualize your patient, make sure that the diet is well balanced in calories and vitamins. Next, evaluate food factors, infection and psychogenic components.

IMMUNOLOGICAL MEASURES

There is a definite group of asthmatic children whose symptoms date specifically to a severe respiratory infection of exanthem. This group according to Bray[10] is called the "lung-damage type." Therefore, to minimize the incidence of this class we urge that all children be immunized against pertussis between five and six months of age; for diphtheria, between six and eight months, and smallpox vaccination at twelve months. Horse serum allergies can be excluded further if tetanus toxoid is given to the runabout child.

Measles can easily be prevented or modified by giving the convalescent serum of whole blood intramuscularly. The placental extracts advocated in measles immunity have in our experience been responsible for two very severe cases of hives.

We do not attempt to immunize our children actively against scarlet fever.

Diphtheria immunization may be improved if we do as Kern[11] suggests. In the cases which fail to give a negative Schick he then administers 1/10 of the usual subcutaneous dose intracutaneously.

In giving any convalescent serums or blood transfusions, always prefer to use the parent on whose side there is no allergy. Always before administering serum make careful inquiry about allergy.

Smallpox vaccination products are fast changing. A few years ago Eli Lilly and Company placed on the market (S. V. Vaccine) prepared from the egg (chorio-alantoic membrane). The question was raised could one safely vaccinate a known egg-sensitive child with such a vaccine. To prove its efficacy we selected five children who couldn't handle egg in any form. These children were scratch and patch tested and then vaccinated. Four had successful takes, and not one showed an unusual reaction. It can then be concluded that the smallpox materials can be used routinely in vaccinating egg-sensitive children.

Especial investigation has been done by Dr. Powell[12] showing that this (S. V. Vaccine) contains some egg protein, but from a practical point of view it can be ignored.

Vaccines: Vaccine therapy may have a definite place for certain asthmatic children.

To this group belongs the child who rarely has asthma unless he has an upper respiratory infection. These children are frequently troubled during rainy periods or when there is a sudden change in barometric conditions.

Both the stock and autogenous vaccines have been tried. As a routine, a good stock vaccine has been as satisfactory as the autogenous. At best, it is less than a 50 per cent procedure. Some advocate pertussis vaccine, but here again we believe we are not giving a specific antigen, but producing a foreign protein response.

Specific skin testing with vaccines has been disappointing. Many false reactions may occur due to the presence of phenol, or peptone.

We usually start with two minims of vaccine and increase one minim every three or four days until strong local response is demonstrated. If this is too heavy we drop back to the optimum.

Before placing faith in vaccines be sure that foci of infection have been removed. Insist that every allergic child can be afforded early and complete protection against infectious diseases. Also encourage their annual "booster injections."

PSYCHOLOGICAL ASPECTS OF THE ASTHMATIC CHILD

A majority of the behavior problems of the asthmatic child can be explained on a physical basis. However, some are the result of an over-indulgent environment. Therefore, the correction of the problem is often as significant as the program of hyposensitization.

Certain children dominate the home or school because they can bring on an attack of acute cough or a wheezing spell at will. A great number of this type are over-active, and some most temperamental. These children should participate in the popular sports. However, they must be taught to enjoy the game for what it is worth and not cultivate the idea of competitive achievement and social prowess. For frequently, heavy play in the late afternoon will precipitate an attack of asthma or severe coughing. Some may have to be excused from routine physical education requirements.

The question is often raised: "Are allergic children superior mentally?" From observation, we believe this group presents some interesting extremes, but if taken as a class are no more than average.

Piness[13] has shown that the intelligence rating in the allergic child is no higher than in the non-allergic. The allergic group seems superior because an asthmatic child is forced to be an indoor type. So, instead of being outdoors with the gang, he has more intimate associations with adults and reflects, as a result, their attitudes and interests.

As stated by Richards,[14] these children represent the strain of a Mack truckload of teacher and parent ambitions and strivings thrust upon a Ford chassis of constitutional capacities.

Therefore, the successful management of the asthmatic child represents the early recognition of symptoms and good allergic control. Last, but not least, remember we are treating a growing child and not just a skin test report.

Also, emphasize to these children that they are expected to follow the same principles of social responsibility for the rights and privileges of others as the non-allergic group.

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Coronary Occlusion: Present Day Concepts of Management*

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Vicksburg, Mississippi

THIS SUBJECT has been preferred because of its increasing importance. Certain modern concepts have been popular in its management and prevention. Also, care of certain complications may prove to be particularly helpful in the future.

To begin with, the diagnosis of coronary thrombosis today in most instances is one that is comparatively simple as compared with fifteen years ago. Even physicians not interested in general medicine can often spot a coronary occlusion. It must be admitted that on account of its protean manifestations that there are occlusions that the best of cardiologists have great difficulty in diagnosing. We feel that in these cases it is always best to treat the questionable cases as coronary occlusions until we may disprove the diagnosis, and when so, I know of no better news to give your patient. In this connection I feel that we also make a mistake in even telling a patient that he or she has angina pectoris, as he never gets well and sometimes enjoys or fears the name and continues always an invalid. It would be better just to tell the patient that he has coronary insufficiency, and we will find he will invariably do better.

Modern electrocardiographic technique and equipment, x-ray and laboratory methods lend much towards diagnostic and prognostic procedures. I refer particularly to serial tracings even as often as every hour in certain cases if necessary, and with improvement in equipment it is easy to take tracings anywhere now. I care not to go into the recent improvement of precordial leads in diagnosis of coronary occlusion; this is apparently good advancement but highly technical.

Regarding the management, this should be divided into two phases: first, the acute, and second, the residual phase. The first phase is usually ushered in by a sudden onset, although most invariably following prodromal symptoms which are usually looked upon as digestive disturbances by the patient and sometimes by the doctor, here certain procedures are of importance. First, the pain is usually most dramatic. Caution should be taken in administering large doses of morphine because of its immediate constrictive action on sympathetic smooth muscles which may be disastrous and, second, its effect of disturbance of sensorium, thereby disturbing the proper recognition of episodes. Here, I think oxygen is of utmost value in the acute episode, more so than morphine, no matter how administered, by the nasal catheter in the home or hospital, for oxygen may be obtained from the nearby machine shop and run through water. Usually a quart milk bottle is just as satisfactory but not as refreshing as the ice-cooled tent. I have seen quicker and more satisfactory response from oxygen than any of the morphine derivatives.

The care of the arrhythmias is at times important; the guiding factor here should be the question of protection of congestive failure and shock or the possible damage of an auricular fibrillation. At times the use of plasma and infusion may be indicated in shock, or the various peripheral methods to prevent central congestion, as venisection and tourniquet to extremities, etc. Digitalis should unhesitatingly be used where congestive failure exists which may produce serious damage to vital organs. It is also necessary to consider the importance of proper nutrition here to the myocardium. Varying percentages of glucose are useful in small quantities. Various stimulants such as metrazol, coramine, etc., are used. I question their real value.

The care of the abdomen in the acute cases has been a real problem to most physicians. I personally feel that when abdominal distention and pain are present in a positive or proved case of coronary thrombosis, the less one does relative to purgatives, irrigations, enemas, and prostigmine, etc., the better the results. I know of no satisfactory way of relieving all of the abdominal discomforts. Occasionally a dissecting aneurysm involving the abdominal aorta is a factor in abdominal discomfort. The question of use of a commode chair versus a bedpan here indicates that more satisfaction and less harm may result from the easy use of a commode chair. I think we all agree that a bedpan is the most unsatisfactory hospital facility known.

Regarding the care of these cases after the acute symptoms are abated, or possibly the borderline or the latent case, much is to be mentioned that might be considered a more modern concept. I consider the abuse of bed rest a paramount issue here. In the early days of the recognition of the clinical syndrome of coronary thrombosis, by Herrick and others, the question of treatment seemed to direct attention to the consideration of this malady as one in which its best results might be, a comfortable state of living without ability ever to regain any part of the patient's former occupation, and possibly the best he could look for was retirement. Those cases who had no compensation were either subjects of burden for the remaining members of the family, complete neurotics with fear always stamped on their faces, or else they ignored professional advice and resumed duties and apparently later showed signs of a complete recovery and surprised their physician upon returning later for management of another ailment. The ability to recognize and appreciate the resultant state of coronary efficiency and the possibilities of recurrent episodes, bearing in mind the fact that the patient may have other pathologic conditions existing, will of course influence your management and by such a procedure many a coronary occlusion may be returned to a fairly active duty in a moderately short interval.

It has been rather conclusively proved that prolonged rests in bed are not only destructive to the nervous system but that the heart can definitely function better in an erect position, and that a certain amount of exercise is definitely beneficial even to a damaged circulation. I have seen in numerous cases the deleterious effects of prolonged bed rest, such as arthritic conditions, atrophy of muscles, gastro-intestinal disturbances, and even watched the progression of arterio-sclerotic and blood pressure changes, and last but not least a completely neurotic or mentally deranged individual.

I prefer to handle each individual coronary according to its own merits. In most instances where the existing cause of the occlusion is self infliction, and in my opinion the majority are, the acute case if not fatal and too large with disturbing compensation, may be up and out of bed in around three weeks. A great deal of help here comes not only from the clinical bedside appearance but from the electrocardiogram, sedimentation, blood pressure, etc. After these cases are up and about they are gradually allowed more privileges until at the end of the six weeks, they are allowed out and then about, gradually to resume their positions in a limited capacity, and eventually full capacity with careful resumption of duties, occasionally better qualified.

Regarding complications of coronary thrombosis that may produce death, the chief ones are rupture of the heart, or the occurrence of rhythmic changes such as ventricular fibrillation or heart block with permanent standstill and the formation and eventuality of intramural thrombi. We may have little influence, in a preventive way, with these complications. There remains however a condition that in my opinion may be to a large extent prevented and that is pulmonary embolism. This condition is seen more frequently than we realize. Because of its dramatic effect, producing all types of rhythmic disturbances as well as congestive heart failure signs, it leads us to suspect further coronary occlusions. There are certain occlusions seen where there is a tendency to a marked drop in blood pressure which may continue for days and at times produce its serious and permanent effects on the general systematic affairs such as renal function, mental status, etc. These show hypotension with sluggish venous circulation predisposing to blood clot formation in various parts of the body, particularly in the inferior vena cava and other adjoining vascular spaces where blood may pool and actually clot under these circumstances and thereby produce the large saddle type embolus of the pulmonary artery, occurring after the patient may or may not shift position, with rather sudden death, always. It is my firm opinion that the use of dicumarol here properly administered and closely observing the prothrombin time may prevent the clotting of this blood and thereby prevent the pulmonary thrombosis. This is only mentioned for its possible future value. I have used it only in three such cases where a careful watch was kept of the prothrombin time and maintenance of a level sufficient to prevent blood clotting over a period of from five to fifteen days where the circulation could be rehabilitated, following the myocardial damage, and have obtained very gratifying results. It will take a series of many more cases for me to be thoroughly convinced that its use will have a definite place in cardiology. I would like here to mention a word of caution: do not use this drug indiscriminately or routinely as such use could have some possible dangerous results. We feel that any tendency to hemorrhage, after the prothrombin time is well above normal, may be well controlled by the use of large doses of vitamin K.

In closing, I prefer to stress two points: first, the abuse of bed rest and, second, the use of dicumarol to prevent pulmonary embolism due to the clotting of blood. I feel that these points may some day prove of some real prognostic value in the case of coronary thrombosis.

DISCUSSION

Dr. A. Gayden Ward (Jackson) — What have we to offer the patient with coronary occlusion? With proper care I think the outlook need not be too depressing. Many patients return to full activity with some of their useless activities eliminated. It can be made a time for the individual to reassess his activities, aims in life, etc., and it has been my experience that these patients have often gone back to their profession or work with a clearer course, and a period of greater effectiveness than was theirs before this accident. I begin early in the attack to use the illness and convalescence as a period of reëducation from the point of view of the years to come. The acute period and the months afterward are the most important from the long time angle. I advocate the early use of oxygen when there are cyanosis and dyspnea and pain; I do not use vasodilator drugs except whiskey, and occasionally aminophyllin. There should be an adequate period of complete rest in bed, four to six to eight weeks or longer, depending on the severity and complications. During this time the bedpan is used; patients are fed; moderate, passive and the active movements of legs are made to prevent stasis; the position of body is shifted; breathing deeply several times a day to expand the lungs; toward the end of the complete rest the head is propped up and then gradually the patient is brought to the sitting position, allowed to read, etc. Then, in order, allow very gradual sitting up, walking, lavatory privileges, bath, etc., requiring a month or more in getting to this stage; then gradual resumption of activities one after the other, taking around five to six months before going back to work: and then gradual return to work. How much activity is finally attained depends upon the patient's cardiac reserve, economic status, interest, etc. and has to be carefully worked out with the patient. After about one year he is on his own again except for the periodic check-ups. In making these recommendations I am not unaware of the problems of the general practitioner, and realize how difficult it is to have patients adhere to this régime. Electrocardiograms aid in prognosis, since the anterior apex lesions have a somewhat more serious prognosis than do the posterior base ones.

There is inadequate evidence offered by those who would have us treat coronary occlusion in an ambulatory or semiambulatory way to take this form of therapy seriously. The analogy between working a striated muscle to increase its blood supply and working the heart muscle in an area of where the blood supply is interrupted in a heart in which the arteries are sclerotic and not normal, is not valid. Patients who have ignored the early symptoms of coronary occlusion, and have kept going, have done less well in my experience.

THE COMMUNITY HOSPITAL SET-UP

The general community hospital in our state should be the cornerstone of the social and economic life of the people, the basis for better trained doctors and nurses, and the means for carrying the best in medicine to the forgotten people of the small town and rural community.

Regimentation threatens the very life, heart, and soul of democratic medicine. It is good human economy for all the people to have the best medical service known. If the best medical service could be carried to the jungles of Africa in times of war it can be carried to the commercial firing lines in time of peace.

Our population needs to be decentralized and distributed, so does our medical profession. The atomic bomb may have come to help force this urgent need. The machine age in which we live is demanding good hospital service at the cross roads, in the small towns. The small town and rural community is the replacement arsenal of our manpower in the march of human affairs.

Thirty per cent of the population of the South since the Civil War has migrated. The small town was depopulated largely because good medical service could not be had at home. The larger percentage was among the best citizens of the community. This weakened the church, the school, lowered production, and prevented industry. Many people who remained and tried to hold the forts had to go to the city many miles away for medical service. This has cost the people in our state multiplied millions in money, in time, and in the neglect of their business at home. So the community hospital is coming to keep our people at home in the small town, to save them much money, to bring them higher standards in living and in health, to save thousands of lives along the highway, in fields and in the home. It is coming to bring us industry along with better agriculture.

As a national level four and one-half beds per thousand population have been recommended to take care of the needs. Our hospital population is increasing at a very rapid rate. The demand for double this number of beds per thousand may come before many years. Anyway, a reasonable number of beds in a county of 25,000 would be one hundred.

In the community hospital set-up, on the same ground we should have the general hospital with its departments which is to serve a greater field in the future than it has in the past; a nurses' home, a public health building, an office building large enough for all the doctors and all the dentists, a hospital hotel, and some small buildings for private nurses and resident doctors.

In the public health building there should be a library for nurses and doctors, rest rooms, and a chapel for lectures and instructive picture shows for doctors, nurses and the public, and also provision made for consultants who will be available to the doctors in different fields, doctors who will come and help the local men make examinations in special cases, outline treatment or operate.

This type of hospital will of necessity be under the direction of a trained hospital man, a medical man preferably who does not practice, but at any rate a trained hospital man who has hospital integrity and who will see to it that each doctor is treated fairly and every patient as well. All the doctors in the community must be behind the hospital if it is really to succeed, for democratic medicine and trained leadership with integrity must be in charge.

No institution in the affairs of the medically forgotten people of our state can be of greater importance to the social and economic life, to their health and happiness, and to their efficiency as citizens, than the community hospital center properly planned and properly manned.

The Mississippi Doctor

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The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Cancer Control

(Guest Editorial)

A. STREET, M.D.

Doctors see some cases of cancer that are curable and others that are not. Most if not all cases were curable at the onset, that is, before direct, regional or remote extension had nullified the possibility of eradication by available methods. Some deeply seated cancerous lesions such as the pancreas, adrenal, and some non-obstructive lesions of the stomach and colon, give so few early symptoms that it is rare for the physician to have the opportunity of attempting early diagnosis, and even if he does, early diagnosis is at times extremely difficult. This is also sometimes true of advanced deep seated malignancy as is amply demonstrated when autopsy on a patient dying after weeks of intensive study reveals a previously undetected advanced cancerous lesion. If we are not already humble, such experience should serve to make us so; but by no means does it justify a defeatist attitude. Striving to surmount difficulty is the doctor's opportunity and obligation, resulting in medical progress. Many deep seated cancers are successfully diagnosed and treated.

On the other hand, many malignant lesions are easily detectable and with little effort. Yet too often patients in this group apply for treatment after the disease is far advanced. There seems to be two groups of factors accounting for delay in cancer therapy. One, those attributable to the patient; two, those attributable to the doctor.

Fear, negligence, and ignorance are probably the most frequent deterrents on the patient's part. The financial factor is important. It is well to remember that the more advanced the lesion, the greater the loss of time and financial outlay involved in combating the disease.

Unquestionable progress in avoiding delay of cancer treatment by patients is being accomplished by the program of the American Cancer Society. This program is designed to offer the patient hope instead of fear, education to combat ignorance and superstition, and a warning against negligence. In addition, it is part of the program to encourage communities to raise funds to provide hospitalization and treatment of needy cancer patients occurring and full coöperation on the part of the medical profession.

Unless the doctor is constantly on guard he may innocently and unintentionally contribute to the patient's delay in obtaining adequate cancer therapy. Three factors seem most important. One, failure to examine the patient; two, misinterpretation of symptoms and physical findings; three, inadequate treatment.

Failure to examine is probably the least harmful because patients are beginning to know enough to realize when they have not been examined and will usually seek another doctor and demand examination. However, to do the least harm, while sometimes good, is not usually enough. Every doctor has patients coming to him who at first glance seem perfectly well and he may want to get rid of such patients with as little ado as possible. Yet it is in this group of patients that early curable cases of cancer are most likely to occur—the unnoticed lump in the breast, the symptomless small cancer of the cervix, or the silent mass in the abdomen or pelvis. It is safer to examine all of them.

Misinterpretation of symptoms and findings is constantly happening even to the most careful physician. More and more complete investigation with all available means is the only answer. It is not safe to tell a woman that her postmenopausal bleeding is due to the theelin she has been taking unless complete investigation has ruled out all other causes. Bloody urine is not usually due to the heavy lifting which the patient so often thinks caused it. Change of bowel habit with increasing constipation and occasional blood in the stool is not usually the result of hemorrhoids to which the patient attributes his symptoms.

Administration of inadequate treatment for curable cancer is probably the worst service a doctor can render his patient because in so doing he leaves the patient in the pitiful plight of one who believes his disease has been properly eradicated, who has been disarmed and given false sense of security during the critical period when his lesion is passing from the curable to the incurable stage.

There is every indication that the doctors of Mississippi are ready and eager to do their part in any effort to accomplish earlier diagnosis and adequate treatment for cancer cases occurring in our communities the public educational program is succeeding. The medical profession gladly accepts its responsibility of providing adequate diagnosis and treatment. This requires the hearty coöperation of every practicing physician.

MISSISSIPPI STUDY OF CHILD HEALTH SERVICE

All doctors in Mississippi engaged in private practice of medicine have received a one-page questionnaire requesting vital information in the nation-wide study of Child Health Services sponsored by the American Academy of Pediatrics. A one-day record of practice has been requested from each of the 1225 physicians thus engaged in this state. Questionnaires have been sent only to those physicians known to be in active private practice. Specialists and doctors treating only adult patients are included. Physicians engaged in full-time institutional, government, and public health service have not been included. The services of these doctors will be recorded through other phases of the study: i.e. Hospitals and Community Health Services.

Data collected from the schedule filled by the private practitioner indicates his medical training after graduation from medical school, his use of pediatric consultant service, availability of hospitals admitting children, proportion of his total practice devoted to children, ratio of office, home, and hospital service rendered to all patients and time devoted to school-health services and public health activity.

Similar information is being supplied by 445 dentists in the state. The whole-hearted coöperation of the State Dental Association has been pledged to the study and the material supplied by the Mississippi dentists will contribute much to the complete picture of medical service.

Twenty-four pediatricians in the state are participating in the study. The pediatrician's participation includes the reporting of his own private practice for four consecutive weeks, including information concerning his hospital and post-graduate pediatric training; availability to him of hospitals admitting children; availability of laboratory facilities; the age and number of children seen; the ratio of office, home, and hospital visits; telephone consultations and consultations with general practitioners; the proportion of practice given to health supervision, teaching, and public health activity. The pediatrician is also completing pediatric evaluation schedules for hospitals throughout the state presumed to have pediatric and maternity services.

It is the profound hope of those sponsoring the study that a near 100 per cent return will be received from questionnaires distributed. Only insofar as the coöperation of each doctor can be secured will the tabulated result of this vital undertaking indicate the true picture of medical facilities in the state of Mississippi. The responsibility of each doctor can thus be measured in the realization that intelligent plans can be made only on the basis of accurate facts which he alone can furnish.

Harvey F. Garrison, M.D.

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Let us respond to the call of Dr. Garrison and do our best to complete the work at as early a date as possible. We are proud of our pediatricians in Mississippi. Our manpower is our greatest asset and the child must replace the man. The child and the mother need the very best treatment that can be afforded.

Our able and popular president of the Mid-South Postgraduate Medical Assembly, Doctor Charles H. Lutterloh of Hot Springs, has invited the members of the Past-Presidents' Club to banquet with him on Wednesday evening, February 12, the second night of the meeting of the Mid-South. The banquet will be held in the Peabody Hotel. This is a very fine gesture on the part of our president.

Past-presidents who have passed on since our last meeting are: Doctors B. E. Arnold, Jackson, Tenn., Ephraim R. McClean of Cleveland Miss., Peter W. Rowland, Oxford, Miss., James B. McElroy, Memphis, and Carl M. Speck of New Albany, Miss. We have also lost one vice-president, Dr. John A. Moore of El Dorado, Ark.

Living past-presidents as far as we have been able to determine are as follows: Drs. W. H. Anderson, Booneville, Miss.; J. W. Barksdale, Jackson, Miss.; Allen Cox, Helena, Ark.; A. F. Cooper, honorary, Memphis; Jere L. Crook, Jackson, Tenn.; John Darrington, Yazoo City, Miss.; J. L. Dunavant, Ripley, Tenn.; C. M. Harwell, Osceola, Ark.; A. G. Hudson, Memphis; F. L. Husbands, Blytheville, Ark.; H. Fay H. Jones, Little Rock, Ark.; L. W. Long, Jackson, Miss.; P. W. Lutterloh, Jonesboro, Ark.; L. H. McDaniel, Tyronza, Ark.; V. B. Philpot, Holly Springs; H. King Wade, Hot Springs, Ark.; and N. S. Walker, Dyersburg, Tenn. Chas. H. Lutterloh is president and J. C. Pennington of Nashville, is incoming president.

Dr. A. G. Hudson of Memphis is president of the Past-Presidents' Club this year, being the next in order from point of service. Dr. W. H. Anderson, Booneville, Miss., is secretary.

The Southeastern Surgical Congress will hold its next annual session in Louisville, Ky., March 10, 11, 12. A fine attendance is expected. This is a very popular organization. The papers are good and the plan of procedure at the meetings is superfine. Dr. T. B. Beasley of Atlanta is the able secretary-manager of the congress. Dr. E. L. Henderson of Louisville is the president. He is not only president of the Southeastern Surgical Congress, but also of the Southern Medical Association. Dr. Henderson has been very active in organized medicine for many years and is one of the most popular men in the South.

Progressive Hospitals is now taking on the size and appearance of a real journal. We expect it to run about forty to fifty pages quarterly from now on. You will find its pages helpful. Our state needs better hospitals and larger ones, perhaps fewer rather than still more. The medical profession is the cornerstone of the hospital. You may usually judge the real value of a hospital by the medical staff. But the doctor and the hospital are interdependent. Every practicing physician should subscribe to his state hospital journal. Not only doctors, but many nurses and many lay people will find it very helpful. The hospital and the doctor must join hands and march together in the interest of medical service for the people.

At the Mid-South this session there will be two great medical spirits missing who have long occupied a place at the Mid-South and who have been outstanding in medicine in Memphis. One, an authority in internal medicine, a great student and a great teacher in medicine, a cornerstone in medical integrity, and a past president of the association, is Dr. J. B. McElroy. The other, a great surgeon, a great teacher, trained in surgical technique, able in diagnosis, profound in surgical wisdom, courtly kind and generous, a delightful friend, is Dr. E. M. Holder. Dr. Holder was a native Mississippian, beloved throughout the South.

Banting's Miracle, by Dr. Seale Harris of Birmingham, one of the most fascinating, the most inspiring, and the most informative books coming from the medical press in recent years, is interesting alike to doctor and layman. If you love the romance of medicine you will love this book. When you pick it up you will not want to lay it down until it is finished. Dr. Harris is the embodiment of Southern medicine, and a courtly gentleman with versatile education. When you read this book you will feel the warmth of his personality and be inspired by the romance of medicine as enacted by Dr. Banting. *Banting's Miracle* will be on sale at the Mid-South at the J. B. Lippincott Company display. You will want a copy for yourself and several for friends.

You will note the advertisement in this issue of the J. A. Majors Company. This company handles the books of W. B. Saunders, but will always be glad to help you secure any book you desire. Dr. Majors is a native of Booneville, Mississippi, and is a great favorite of the doctors of the South. The Shuberts have charge of the branch at New Orleans and they love to do book service for the doctors.

C. V. Mosby is a great book company. You will note this company has a booth at the Mid-South. It has a fine vision of service.

You will note the list of exhibitors at the Mid-South in this issue of the journal. We are delighted to have them at this meeting. They are interested in the same great cause we are. Their aid and their coöperation have been a great help in making the Mid-South what it is. You will learn much by visiting the exhibits and in so doing you will also show your appreciation of their arranging to be with us.

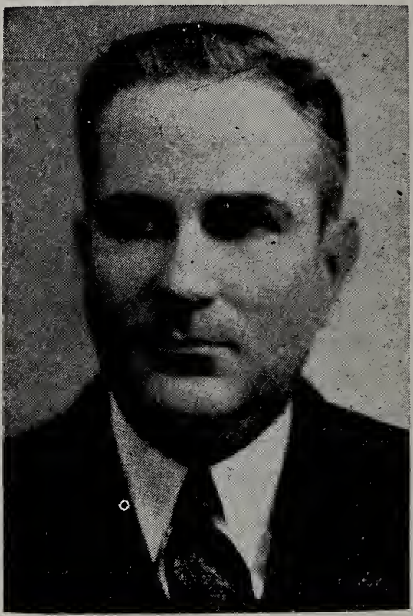
American Practitioner is a journal published each month by J. P. Lippincott Company. The purpose of this journal is to provide sound and helpful articles which present the best current thought and practice in the various fields of general medicine. Among some of the subjects treated in the first issue are: the problem of sterility today, testicular dysfunction, diagnosis and treatment, treatment of empyema with penicillin, clinical significance of hoarseness, dental care of children, et al. This journal proposes to "shorten the lag between experiment and practice." The editor is Dr. John B. Youmans, Vanderbilt University Hospital, Nashville 4, Tennessee. The business address is *American Practitioner*, 227-231 South Sixth Street, Philadelphia 5, Pennsylvania. We feel sure that this journal will serve well if it keeps true to its name and purpose.

Four past-presidents of the Mid-South have passed on since the last session of the association, namely: Dr. J. B. McElroy of Memphis, who was well known as a practitioner and a teacher in this area, Dr. F. W. Rowland of Oxford, an outstanding teacher and practitioner who was the first to use oxygen by nasal catheter; Dr. Clyde Speck, a former superintendent of our State Hospital at Whitfield; and Dr. E. R. McClean of Cleveland, a general practitioner and surgeon, a lovable friend, big and generous in heart.

Be sure to read the review abstract on pneumococcus meningitis in infants and children by Dr. Harvey Garrison. This condition has been one hundred per cent fatal and this report should be very encouraging. We appreciate the work of Dr. Garrison in abstracting the pediatric literature. Steadily on the job with a report each month, his work is deeply appreciated by the editor of the journal, as well as by the readers.

News and Comment

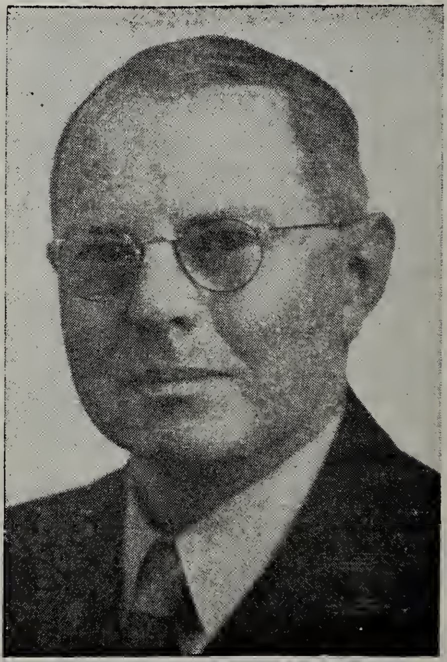
PRESIDENT



Dr. Charles H. Lutterloh
Hot Springs, Ark.

Dr. Lutterloh, member of a family long prominent in medical groups, will preside at the first post-war meeting of the Mid-South Postgraduate Medical Assembly, which convenes at Hotel Peabody February 11, 12, 13, and 14.

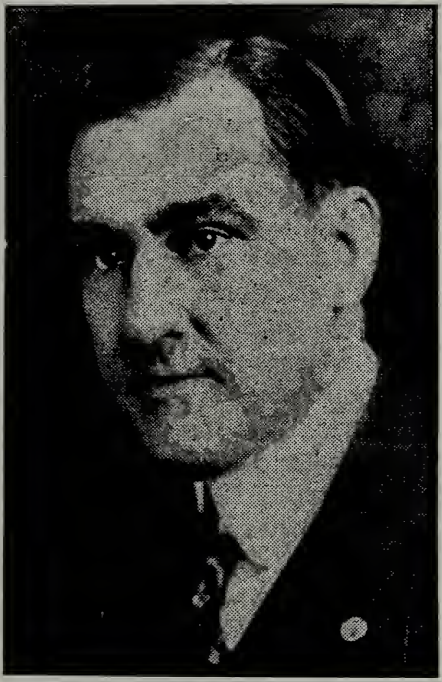
PRESIDENT-ELECT



Dr. J. C. Pennington

Dr. Jefferson C. Pennington of Nashville, Tenn., is the incoming president of the Mid-South Postgraduate Medical Assembly. He is a native of Alabama, a veteran of World War I, and a urologist in the profession. He holds an M.A. degree from the University of Alabama and his medical degree from Vanderbilt. He is versatile and popular. Dr. Pennington has been a devoted friend to the Mid-South through the years. He is worthy and well qualified in every respect for the presidency of this beloved organization. Let us give him a cordial and a helping hand.

SECRETARY



DR. ARTHUR F. COOPER

A native Tennesseean, the secretary has been a resident of Memphis for thirty-five years. He attended the University of the South at Sewanee, graduated in medicine from Vanderbilt University, did postgraduate work in Boston and New York, served in the Medical Corps, World War I as lieutenant and was later promoted to captain. He was associate professor of medicine, University of Tennessee, College of Medicine, 1920-1940, staff member of the Methodist, Baptist Memorial and John Gaston hospitals for over twenty-five years during which time his work has been confined to internal medicine.

At present Dr. Cooper is on the staff of the Veteran's Hospital on Lamar. He is secretary of the Memphis and Shelby County Medical Society, 1921-1945 inclusive, president-elect of that body, 1946, and president for 1947. From 1921 to the present time he has served as secretary of this assembly.

Possessing the perfect secretary technique in handling the procedure of a medical association, Dr. Cooper's name is well-known in the circles of the Mid-South. He is methodical and carries out the program to the minute.

CONFERENCE ON RURAL HEALTH

The second annual meeting of the National Conference on Rural Health is to be held in Chicago on February 7 and 8 at the Palmer House. Dr. F. S. Crockett is chairman and Dr. L. W. Larson is co-chairman. Dr. Ransom Aldridge of Mississippi is on the program, as are Doctors Harrison Shoulders and Olin West, president and president-elect of the American Medical Association. Keep your eye on this organization and be sure to attend it when you can. Great good is going to come from it.

ALABAMA ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

Program

The following eminent speakers will appear on the annual program, to be held February 20 at the Medical College of Alabama, Birmingham, Ala.:

Bayard Carter, M.D., Prof. Obstetrics and Gynecology, Duke University School of Medicine, Durham, N. C.; Willard R. Cooke, M.D., Prof. Obstetrics and Gynecology, University of Texas School of Medicine, Galveston, Texas; Thomas B. Woods, M.D., Dothan, Alabama; Howard B. Lewis, PhD., Prof. of Biological Chemistry, University of Michigan Medical School, Ann Arbor, Michigan; J. E. Garrison, M.D., Birmingham, Alabama; George N. Papanicolaou, M.D., Asso. Prof. Anatomy, Cornell University Medical College, New York City.

MID-SOUTH POSTGRADUATE NURSE ANESTHETISTS ASSEMBLY

The Mid-South Association of Nurse Anesthetists, meeting jointly with the Tennessee Association of Nurse Anesthetists at the Hotel Peabody, February 12 and 13, will be presided over by Miss Nettie Bryant of Memphis, president.

The two-day program will include addresses from Dr. Frank E. Whitacre, Dr. E. Malcolm Stevenson, Dr. John Davis Hughes, Dr. Charles W. Miller, Jr., Dr. Albert J. Grobmyer, Jr., Dr. C. D. Hawkes, Dr. Phil B. Bleecker, Dr. Robert A. Hingson, and Dr. Turley Farrar, of Memphis; Dr. Warren H. Cole of Chicago; Dr. Carl H. McCaskey of Indianapolis, Ind., Dr. George M. Curtis of Columbus, Ohio, Miss Hattie Vickers of Nashville, Tenn., Miss Ann Beddow of Evansville, Indiana, and Dr. Richard H. Meade, Jr., of Chicago, Ill.

TO AID VISION

Mrs. Henry Breckinridge, Director of The Eye-Bank for Sight Restoration, Inc., at 210 East 64th Street, announces that experimentation for the improvement of vision in eyes damaged by hemorrhages as a result of injury or other causes has met with success . . .

Dr. Milo H. Fritz—the recipient of the Florence Ellsworth Wilson Memorial Fund Fellowship—removed a quantity of cloudy fluid from the back portion of the eye and replaced it with clear spinal fluid taken from the patient's own spine. It is too early to predict the ultimate result of this experiment, but the patient was able to see large objects about the ward on the morning following this operation.

So far as is known, this has been done by but one surgeon previously . . . Hegner in Germany in 1928. This operation is similar to that in which the vitreous humor of a donated eye is used to replace cloudy vitreous in the blind eye of a living patient, but may prove to be a more successful method.

POSTGRADUATE COURSES

These intensive and thorough courses offered at Tulane through the Mississippi State Board of Health are practical and to the point on essentials, and very important for the practitioners of our state. We are very fortunate to have them.

TECHNICAL AND SCIENTIFIC EXHIBITS

Mid-South Postgraduate Medical Assembly

The Borden Company	New York, N. Y.
Burroughs Wellcome and Co.	New York, N. Y.
Carnation Company	Milwaukee, Wis.
Abbott Laboratories	North Chicago, Ill.
A. S. Aloe Company	St. Louis, Mo.
Ames Company, Inc.	Elkhart, Ind.
Ayerst, McKenna and Harrison	N Y., N.Y.
Bard-Parker Company, Inc.	Danbury, Conn.
Bilhuber-Knoll Corp.	Orange, N. J.
G. W. Carnrick Company	Newark, N. J.
The DeVilbiss Company	Toledo, Ohio
The Dick X-Ray Company	Memphis, Tenn.
Eaton Laboratories, Inc.	New York, N. Y.
H. G. Fischer and Company	Chicago, Ill.
General Electric X-Ray Corp.	Memphis, Tenn.
Gerber Products Company	Fremont, Mich.
Kay Surgical Inc.	Memphis, Tenn.
H. W. Kinney and Sons, Inc.	Columbus, Ind.
Lederle Laboratories Division American Cyanamid Co.	New York, N. Y.
Eli Lilly and Company	Indianapolis, Ind.
J. B. Lippincott Company	Philadelphia, Pa.
J. A. Majors Company	New Orleans, La.
Mead Johnson and Company	Evansville, Ind.
Mellins Food Company	Boston, Mass.
The Mennen Company	Newark, N. J.
E. L. Mercere, Inc.	Memphis, Tenn.
Merck and Co., Inc.	New York, N. Y.
Philip Morris and Co.	New York, N. Y.
Ortho Pharmaceutical Corp.	Liden, N. J.
Parke, Davis and Co.	Detroit, Mich.
Pet Milk Sales Corp.	St. Louis, Mo.
Puritan Compressed Gas Corp.	Kansas City, Mo.
Richards Manufacturing Co.	Memphis, Tenn.
Schering Corporation	Bloomfield, N. J.
G. D. Searle and Co.	Chicago, Ill.
Smith, Kline and French Lab.	Philadelphia, Pa.
Southern Surgical Supply Co.	Memphis, Tenn.
Frederick Stearns and Co.	Detroit, Mich.
White Laboratories, Inc.	Newark, N. J.
Wyeth Incorporated	Philadelphia, Pa:
Davis and Gerck, Inc.	Brooklyn, N. Y.
U. S. Vitamins Corp.	New York, N. Y.
The Wm. S. Merrell Co.	Cincinnati, Ohio.
Mid-South Oxygen Co.	Memphis, Tenn.
C. V. Mosby Co.	St. Louis, Mo.

Book Review

DIABETES, by Henry J. John, M.A., M.D., F.A.C.P., Lt. Col., M. C., Cleveland, Ohio. 300 pages; illustrated. The C. V. Mosby Company, St. Louis, Mo., 1946. Price

Diabetes mellitus is an ever present problem in the office of the general practitioner as well as the specialist of internal medicine. The discovery of insulin in 1921 by Banting and Best initiated a new era in the knowledge and treatment of diabetes, and much progress has been made in the care for these patients since then. With the simplification of dietary details and the resolution of many technical difficulties of diabetes, the majority of diabetic patients can be properly treated by the intelligent family physician. This text evolves from such a thesis.

Colonel Henry John has devoted over twenty-five years to the study of diabetes in the laboratory and clinic. For years he has maintained a camp for diabetic children near Cleveland, and it is with authority that he speaks on the many problems of diabetes in this text. In two essential details his methods depart from the conventional approach. First, all ambulatory diabetic patients are placed on a regimen as closely approximating their normal existence as possible. Second, the criteria for properly controlled diabetic patients is based on blood sugar determinations rather than glycosuria. In his chapter on The Differential Diagnosis of Glycosuria, Colonel John explains the importance of blood sugar determinations.

A clear clinical picture of the disease is presented in the first three chapters of this book. The treatment of uncomplicated and complicated diabetes is discussed fully. It is with an aim to help the busy practitioner to rationalize and to utilize the current knowledge on diabetes that this book is written. Sound advice from a vast experience is offered in the simplest terms.

RESOLUTIONS OF RESPECT FOR DR. DANIEL JOHN WILLIAMS

WHEREAS, We are all travelers to an unknown home and sooner or later a veiled messenger that men call Death speaks our name and bids us follow the noiseless tread of his guiding feet, and such a messenger gently and tenderly called the revered name of Dr. Dan J. Williams Sunday, September 1, 1946, after he had given seventy-eight years and fifteen days to the people of his native state, his beloved Mississippi, whispered to him that the day was done, and evening time and resting time had come, then it was that our beloved friend, confrere, and fellow member of the Mississippi Public Health Association drew the proffered mantle of rest about him and passed into that unbroken sleep "that ends the heartaches and the thousand natural shocks that flesh is heir to"; and

WHEREAS, "There is a voice from the tomb sweeter than song; there is a remembrance of the dead to which we turn even from the charms of the living—these we would not exchange for the song of pleasure nor the burst of revelry," we hold this remembrance of Dr. Dan J. Williams, his fidelity to medical ethics, his loyalty to organized medicine, his contributions to preventive medicine and public health, his uncompromising stability to principles and approved practices while an official "in many state medical organizations," his faithfulness to his duties, his loyalty and unbroken attendance as a member of the Mississippi Public Health Association; and

WHEREAS, Those who sleep in death, the gentle end of human sorrow, need not help and futile is our praise to add one iota to their name or glory, for they, not we, have fixed their immortality, and are benefited none by our spoken plaudits or written eulogies which we so willingly give; to our beloved and esteemed Dr. Dan J. Williams, we cannot add to his laurels or glorify his character, but cherish his memory and emulate his noble example as a heritage we will not give up, but abide as faithful and preeminently worthy co-laborers; and

WHEREAS, Dr. Dan J. Williams organized the first medical society in Mississippi, was the county health officer and director of the first all-time county health department established in Mississippi, which was the second of the United States, was a member of the State Board of Health of Mississippi for four years, was a member of the Half-Century Club of the State Medical Association, and was associated with the Mississippi Health Department for fifty years, he will forever be to medical men and health workers of Mississippi the "pioneer soul that blazed the path where highways never ran," he will be forever the Old Lamplighter "who made the night a little brighter wherever he would go—the old lamplighter of long, long ago; and though no longer may we hear the tread upon the street of his faithful feet, as he made the dark way brighter, this old lamplighter of the long ago;" therefore

BE IT RESOLVED, That we cause to be entered into the permanent files of the Mississippi Public Health Association a copy of these resolutions that those who follow us may read and know that we of our day honored and revered our illustrious leaders, those who served well in the day of their privileges, and through the years of their opportunities, that a copy be sent to any and all living members of his family, that copies be given the secular press, and one sent to the *Mississippi Doctor* for publication, that we subdue the sorrow of our hearts and bow our heads in acknowledging that "God, our God, who is able to prevail, wrestled with him as the angel did with Jacob, and marked him, marked him for His own."

F. Michael Smith, M.D.
Syd V. Schneidau, R. N.
Roy S. Stovall,
Committee on Resolutions

RESOLUTIONS OF RESPECT FOR DR. BRYANT JOSEPHUS SHAW

WHEREAS, To live is not merely to breathe, but to act, to use every faculty of one's being to "act well his part, there all the honor lies," we bow in homage to one Dr. Bryant Josephus Shaw, who was born in Slate Springs, Mississippi, September 18, 1879, and died August 6, 1946, having lived sixty-six years, ten months and eighteen days, a long life measured by the pearls of happiness animating his own heart and the deeds of service filling with rapturous joy and appreciation the hearts of others, and

WHEREAS, Doctor Shaw was a member of the State Board of Health at the time of his death, having served well for eighteen years and during this time of service was most sympathetic and most aggressive in matters pertaining to public health, at all times a friend of the Mississippi Public Health Association and each individual worker, in both aims and objectives; therefore

BE IT RESOLVED, That we pay this deserving tribute to him, that we send to his family a copy of these resolutions of respect, that a copy be spread upon the minutes of this association and a copy be sent his home paper for publication.

F. Michael Smith, M.D.
Syd V. Schneidau, R. N.
Roy S. Stovall,
Committee on Resolutions

RESOLUTIONS OF RESPECT FOR DR. WALLER SMITH LEATHERS

WHEREAS, After seventy-three years, one month, and twenty-four days the supreme day and inevitable hour came to Dr. Waller Smith Leathers in Nashville, Tennessee, after he had completed the course fortune had allotted him to make, and he passed renowned in life, illustrious in death, descending to his grave "like one who wraps the draperies of his couch about him and lies down to pleasant dreams;" and

WHEREAS, This eminent physician, tactful administrator, and erudite teacher was the most agreeable of companions, simple mannered, frank, and "without any high pretentions to an oppressive greatness," was the founder of a stable all-time public health service in Mississippi, and benignly transferred same with all its potentialities to a worthy successor, and lived to see his proper ideals come to full fruition, and now reposes as a faithful toiler taking his rest through the long, long, unbroken day that endeth not; and

WHEREAS, The orb of Doctor Leathers' destiny began to show brilliantly in the morning horizon of his life when leaving his native state of Virginia for his adopted state of Mississippi about the year 1910, when his star of destiny rose, shone brighter, as he served as teacher in the University of Mississippi, dean of the University of Mississippi Medical School, director of Public Health in Mississippi, director of Professional Education of the American Public Health Association, president of the American Public Health Association, secretary of American Medical Association, president of the Southern Medical Association, and in the midst of his final labors as teacher and dean of the Medical Department of Vanderbilt University he heard the commendation, "Well done, thy labors are ended;" he will work no more; nevertheless, the impress of his valiant life, the achievements of his alert mind, the soundness of his peerless philosophy, the beneficence of his profound wisdom will abide with us as enduringly as the various organizations he helped to found, and those others he served, cherished, and loved devotedly; and

WHEREAS, Doctor Leathers was an honorary member of the Mississippi Public Health Association, fulfilling the highest requisites for honorary membership, having shown distinguished interest and rendered a service in public health that places his name forever among the immortals of Fame's eternal scroll, therefore

BE IT RESOLVED, That we spread a copy of these resolutions upon the minutes of the Association, that a copy be sent to the family of our honored co-worker, that a copy be sent to the *Mississippi Doctor* and to the secular press of Mississippi and Tennessee for publication, that men everywhere may know we revere our illustrious dead who have given their lives that humanity may keep with it longer the lives they love so well.

F. Michael Smith, M.D.
Syd V. Schneidan, R. N.
Roy S. Stovall,
Committee on Resolutions

RESOLUTION OF GOVERNING BOARD OF DELTA MEDICAL SOCIETY IN MEMORY OF DR. R. C. SMITH OF DREW, MISSISSIPPI

WHEREAS, on November 7, 1946, God, in his infinite wisdom, saw fit to call our beloved friend and fellow member, Dr. R. C. Smith, to the reward which his years of outstanding and unselfish service as a Christian, a citizen and physician so thoroughly merited; and

WHEREAS, for the past forty-four years Dr. Smith endeared himself to the citizens of his community and the members of his profession by generously giving of his time and ability in the promotion of the best interest of his community, the advancement of the medical profession, and as one of the founders and a past-president, of the Delta Medical Society contributed to the practice of medicine in an efficient and ethical manner, at the time of his death serving as vice-president of this society; and

WHEREAS, in Dr. Smith was embodied the qualities of a true Christian, a loving husband and father, a leader in every undertaking which furthered the interest of his community and its citizens, a man of honor who was respected by all who knew him, and one who was ever sensitive to his duties and obligations as a loyal friend and an able physician; and

WHEREAS, all who knew him mourn his loss and the members of the governing board of the Delta Medical Society are deeply grieved at his passing; therefore

BE IT RESOLVED by the governing board of the Delta Medical Society that one of its most outstanding members has passed away, that the entire society is grieved, that the deepest sympathy of the society is extended to the members of his beloved family, and a copy of this resolution be sent to his family.

Unanimously passed and approved this twelfth day of December, 1946.

Dr. F M. Acree, President
Dr. C. W. Patterson, Vice-Pres., Bolivar County
Dr. Howard A. Nelson, Vice-Pres., Leflore County
Dr. T. R. Lewis, Vice-Pres., Washington County
Dr. G. M. Barnes, Vice-Pres., Humphreys County
Dr. J. C. Russel, Jr., Secretary-Treasurer
Governing Board of the Delta Medical Society

Deaths

DR. DAVID Z. COATS

Dr. David Coats, a resident of Magee for two and a half years, had moved from Baton Rouge, La., assuming control of the Magee General Hospital, died of accidental gunshot wounds at his home on December 30.

Dr. Coats was a member of the Methodist church, and was also a member of the Magee Lions Club. He was interested and active in the civic life of the town and community and was ready to lend his assistance in the upbuilding of the town.

He was educated at Louisiana State University, Baton Rouge, graduating in 1941.

Services were held at Marthisville, La.

DR. G. Y. GILLESPIE, SR.

Dr. G. Y. Gillespie, Sr., long prominent in medical circles of Mississippi, died December 24 at the home of his son, Dr. G. Y. Gillespie, Jr., in Greenwood. Formerly of Duck Hill, he had been making his home there since November.

Funeral services were held at the Presbyterian Church in Duck Hill.

Dr. Gillespie was born August 5, 1855, in Franklin County, Tenn. He attended the University of Mississippi, and received his medical education at Memphis Medical College. He began the practice of medicine at Arkabutla, Miss., 1885, and moved to Duck Hill in 1891, where he practiced until failing health caused his retirement a few years ago. He was a member of the Presbyterian church and gave the present Duck Hill church which is known as Gillespie Memorial Presbyterian Church, in memory of his wife who died in 1929.

He is survived by the following children: Dr. G. T. Gillespie, president of Belhaven College, Jackson; Barry Gillespie, Memphis; Dr. G. Y. Gillespie, Jr., Greenwood; Frank Gillespie, Aberdeen; Meek Gillespie, Charleston, and Mrs. J. E. Aldridge, Duck Hill.

Also surviving are twenty grandchildren and three great-grandchildren; a half sister, Mrs. Virginia Sanderson, Alhambra, Calif., and two half brothers, Mr. John Gillespie, Alhambra, Calif., and Mr. Frank P Gillespie, of Dallas, Texas.

Interpreting Medical Literature

Staff of Review

Dermatology—James G. Thompson, Jackson
Otolaryngology—Charles R. Hume
Ophthalmology—Edley Jones, Vicksburg
Obstetrics and Gynecology—J. F. Lucas, Greenwood.
Orthopedics—Thomas H. Blake, Jackson.
Public Health—Felix J. Underwood, Jackson.
Pediatrics—Harvey F. Garrison, Jackson.
Radiology and Roentgenology—Karl O. Stingily, Meridian.
Pathology—R. M. Moore, Vicksburg, Miss.
Surgery—W. H. Parsons, Vicksburg.
Urology—Temple Ainsworth, Jackson.

OPHTHALMOLOGY

Dust-Borne Infection in Ophthalmic Surgery. M. Hayward Post, M.D.; St. Louis, The American Journal of Ophthalmology. Vol. 29, No. 11, Nov. 1946; Page 1435.

Every surgeon will find this article worthy of reading, though it is of particular interest to those doing intra-ocular surgery. The author's discussion may be divided into two parts.

In one part he discusses sterilization of air by two methods. The first of these is by using sterile lamps, and these may be employed in two ways: the field of operation, tables, etc., may be subjected to the direct rays from the lamp; or, the air supplying the room may be drawn in through conduits over large batteries of sterile lamps. The second procedure is to spray the air with various bactericidal solutions; and experimental studies have been made with propylene and with triethylene glycol vapor. The author inclines to the latter method for various reasons. Results of both methods can be improved by oiling blankets and sheets. "Fixanol C." can be used to oil blankets and "Teepol" can be used to oil cotton sheets and other fabrics. Paraffin oil applied to floors helps hold dust but is slippery on tile; for tile floors, a solution of urea, ninol and rocall has been found effective but must be renewed frequently.

The author made extensive studies of the sterilizing efficiency of various antiseptic solutions and recommends the following formula:

Liquor cresolis compound	8.0 cc.
Oil of lavender	2.0 cc.
Thymol crystals	2.0 gm
Ethyl alcohol 95 per cent	88.0 cc.

He states that "clean instruments contaminated by cultures made up of various types of virulent organisms could be sterilized by immersion in that solution for a period of one-half minute. Four and one-half minutes were required to sterilize similar instruments previously soiled by blood and serum when subjected to the same culture plus a heavy concentration of spore-bearing hay bacilli." The solution had no deleterious effect on the instruments and did not dull the edge of sharp ones. Furthermore, it had no bad effect on aluminum, nickel-plated brass or rubber. He recommended that this solution be kept in a covered basin. Of course it is necessary to wash the instruments after immersing in this solution; in his closing paragraph he recommends the use of 1:3,000 zephiran solution (aqueous) for that purpose, also in a closed vessel. His experiments indicated there was less danger of infection if the instruments used intra-ocularly were immersed for one and one-half seconds in boiling water just before use; but obtained better results by dipping them in the zephiran solution for two and one-half seconds.

EDITORIAL COMMENT

The procedures discussed for sterilization of the air cannot well be universally adopted at present. Experimental work will be continued and it is probable that one of these methods may be more or less universally adopted in the future. However, his recommendations for the sterilization of instruments can be adopted without difficulty or unusual expense and appear well worthwhile.

Edley H. Jones, M.D.

OTOLARYNGOLOGY

Treatment of Chronic Purulent Otitis Media With Glycerite of Hydrogen Peroxide. Ethan Allan Brown, M.R.C.S. (London), L.R.C.P. (Eng.) Boston; and Walter E. Owen, M.D. Peoria, Ill.

The authors report on the treatment of thirty-seven patients with chronic purulent otitis media using glycerite of hydrogen peroxide with urea, a new product marketed by the International Pharmaceutical Corporation in Boston.

Though peroxide and urea have been used in various combinations for many years in treatment of chronic purulent otitis media, it has been used in an aqueous solution, and the results have been none too successful. This preparation combines the advantageous properties of both the ointment and liquid type of preparations. It is hygroscopic, peptizing and bactericidal, and it acts on bacteria independent of their gram-staining characteristics. The solution of hydrogen peroxide in solvents of high viscosity stabilizes it and prolongs its action, the released oxygen being held in the glycerin and acting at the interface between the tissues and the antiseptic. Its action is therefore greatly prolonged. The glycerin is the hygroscopic agent, urea is the peptizing agent and the hydrogen peroxide the bactericidal agent.

All of the thirty-seven patients treated had been treated over a varying period of time with the usual preparations such as penicillin, boric acid, boric acid in alcohol, sodium sulfathiazole, sulfanilamide, iodine-boric acid powder, tyrothricin, etc., and in none of the cases was a dry ear obtained. These patients were treated in the office and at home by using one-half dropperful of the solution in the ear every four hours. Where there was a very profuse discharge, the ear was first irrigated with a warm saturated solution of boric acid. Two of the thirty-seven patients failed to return for further treatment or observation. Three showed no improvement and three were given or required intramuscular penicillin in addition to the glycerite of peroxide to clear their condition. Chronic purulent otitis media of twenty-nine patients completely cleared with the use of the antiseptics alone. The only complications noted were in two patients where the use of the drops was associated with nausea and vertigo. Both patients, however, persisted with their treatment and their conditions cleared. Bacterial cultures before instituting this treatment included all of the usual pathogens, both gram negative and gram positive, seen in ear infections. Many of these organisms are those non-sensitive to penicillin and sulfonamides. The ages of the patients varied from three to sixty-five years and the otitis media had been present for periods of four weeks to over forty years. The treatments with the glycerite of hydrogen peroxide solution was necessary for periods from four to thirty-eight days.

The author gives a brief history and clinical course of all thirty-seven cases. In all cases the offensive of the discharge when present was either eliminated or otherwise reduced to the point at which it was no longer offensive.

The authors make no mention of the pathology existing in these thirty-seven cases regarding the presence of polypi, granulation tissue, necrotic bone, etc. It is not likely that this treatment alone would be curative in cases of chronic otitis media where such pathological conditions exist, but should be of value after this pathology has been removed by surgical measures.

Included in the review is the author's summary of this report.

PEDIATRICS

Pneumococcus Meningitis in Infants and Children, a Report on the use of Combined Sulfonamide and Penicillin Therapy—Lt. (JG) Sidney Ross, Medical Corps, U. S. Naval Reserve, and Frederic G. Burke, M.D., Washington, D. C.—The Journal of Pediatrics, Vol. 29, December, 1946.

The authors of this splendid article are kind enough to give us some of the history relative to the research done in regard to this subject, and this is quite important since they are offering remedies now which have, in a sense, revolutionized the treatment of pneumococcus meningitis in infants and children. In order to give the physicians of our state some of the results of their research, I am quoting what they have to say in their following introduction to his subject:

"Prior to the advent of chemotherapy and penicillin, few recoveries from pneumococcus meningitis were reported in the pediatric literature. Waring and Smith reviewed 150 cases with a 100 per cent mortality, while Toomey and Roach reported 157 cases with no recoveries. In Children's Hospital, Washington, D. C., there were sixty-six cases between 1923 and 1939 reported by Lindsay and associates and Grossman, and of this entire series there was only one recovery. Other reports have been similarly discouraging.

"The use of sulfonamide drugs represented a considerable advance in the therapy of pneumococcus meningitis. Between 1940 and 1941 there were sixteen cases of pneumococcus meningitis in Children's Hospital; fifteen patients died and one recovered; the recovery occurred in a patient who received both sulfadiazine and type-specific antiserum. Of the fifteen patients who died, sulfapyridine and antiserum were used in thirteen cases, while in the other two, no specific therapy was employed. As a whole, our results with sulfapyridine during this interval were disappointing. In 1942, eight patients with pneumococcus meningitis were treated, and of this series, three recovered and five died. Two of the recoveries occurred with sulfadiazine and antiserum and in one case sulfadiazine alone was used. In 1943, fourteen patients with pneumococcus meningitis were treated, with six recoveries and eight deaths. Of this group, therapy consisted of sulfadiazine and pneumococcus antiserum in nine cases, sulfadiazine alone in three cases and no specific therapy in two cases. Of the six patients who recovered, all received combined sulfadiazine and pneumococcus antiserum therapy; included in the recoveries were four patients under six months of age. Two of the six patients who recovered had blindness and hydrocephalus as residual complications. Of the eight patients who died, three were under six months of age, one was sixteen months and another twenty months of age. In this group, five of the eight deaths occurred within the first twenty-four hours after admission to the hospital; a sixth patient died four days after entry. These results indicated that the initiation of vigorous therapy including sulfadiazine together with penumococcus antiserum resulted in a significant diminution in the mortality rate. However, the over-all mortality, even with the use of sulfonamide drug and type-specific antiserum, still ranged from 58 to 70 per cent from 1940 to March, 1944, both in our series and in those reported from other institutions, including the report of Hodges and associates from Harriet Lane Hospital. In this regard, Dowling and associates in a review of the results obtained at Gallinger Hospital, Washington, D. C., from 1938 to 1941, reported only four recoveries in seventy-two cases. All of these patients received sulfonamides, and many received additional specific antiserum. This indicated that prior to the advent of penicillin, the mortality in pneumococcus meningitis is still inordinately high, especially in infants and young children. In April, 1944, a specific régime of therapy was adopted for pneumococcus meningitis at Children's Hospital, consisting of combined sulfadiazine and penicillin which was to be initiated as soon as the diagnosis was made."

"The outstanding diagnostic findings and symptoms of pneumococcus meningitis are noted as follows:

"Clinical Aspects—Nuchal rigidity, bulging fontanel, and convulsions were present at the time of entry in approximately one third of the cases. Other prominent findings were lethargy and positive Brudzinski and Kernig signs in approximately one fourth to one third of the patients. It is to be noted, especially in the infant age group, that the presence of a bulging fontanel is an important diagnostic finding; in one half of the forty-two patients under one year of age a bulging fontanel was present, and in ten cases it was the only significant finding on physical examination. Of the twenty-one patients having convulsions at the time of admission, all were under one year of age axcept one sixteen-month-old child, indicating that convulsions in the infant group is another important manifestation of meningitis. It is the practice at Children's Hospital to perform routinely a lumbar puncture on every child admitted with a history of fever and convulsions. In the infant age group, signs of meningeal irritation including nuchal rigidity and positive Brudzinski and Kernig's signs were less reliable diagnostically than in the older children. Of these three signs of meningeal irritation the Kernig sign was most equivocal and difficult to interpret. The temperature on admission in these sixty-four cases ranged between 99° and 107° F. with an average of 103.5° F.

"In view of the variation in the signs and symptoms in meningitis, especially in the infant age group, the importance of performing lumbar punctures in any case where doubt exists cannot be stressed too strongly. This is predicated by the fact that the early manifestations of meningitis in the infant age group are often nonspecific, consisting only of fever, fretfulness, vomiting, and diarrhea. At a time when more overt clinical manifestations of meningitis such as evidence of meningeal irritation become apparent, the disease is often well advanced.

"Clinical findings on admission in sixty-four cases of pneumococcus meningitis.

Signs	No. Cases
Nuchal rigidity	26
Bulging fontanel	22
Convulsions	21

Lethargy	20
Positive Brudzinski	19
Positive Kernig	19
Dehydration	12

In their laboratory diagnosis, the authors say:

"In thirty-five of the sixty-four cases, pneumococcus organisms were demonstrated on smear, thus permitting the diagnosis to be made within a short time after lumbar puncture. In the remaining twenty-nine cases the organisms were grown readily on culture. Pneumococcus typings showed that approximately one half of the cases were represented by types 18, 14 and 6. It is to be noted that often in pneumococcus meningitis the organisms were present in large number in contrast to meningococcus meningitis, where the number of bacteria is considerably less abundant on smear; however, there are exceptions to this rule. Spinal fluid examinations showed a variation in white cell counts ranging from 80 to 4,500, an average of 1,500 cells per cubic millimeter, with polymorphonuclear cells predominant. In the majority of cases, the spinal fluid sugar was substantially reduced or absent, while the protein was usually elevated."

The authors gave the following on their line of treatment in these cases, and for the benefit of our readers, we are quoting them verbatum in regard to the principal portions of their suggested treatment:

"Since April, 1944, there have been nineteen patients with pneumococcus meningitis who have been treated with combined penicillin and sulfadiazine; type-specific antiserum was used routinely with the first seven patients in this series, while with the remaining twelve it was omitted. The following therapeutic régime was adopted in these nineteen cases.

Penicillin—As soon as cloudy spinal fluid was encountered, 5,000 or 10,000 units of penicillin were instilled intrathecally. The penicillin was diluted in distilled water or saline so that 1,000 units equalled 1 cc., and an excess of spinal fluid was withdrawn prior to intrathecal instillation. Rammelkamp and Keefer have shown that in adults such a dose of penicillin intrathecally is non-irritating and will remain in therapeutic concentration in the spinal fluid from twenty-four to thirty-one hours. Our own studies in infants and children concur with this observation. In two of the cases in the present series, an increase in the number of cells in the spinal fluid was noted in the fluid withdrawn after the second lumbar puncture. This increase in pleocytosis has been known to result occasionally after intraspinal injection of penicillin, due to meningeal irritation. Penicillin given intrathecally should be introduced very slowly, either by syringe or preferably by gravity, in order to avoid any untoward central nervous system damage such as possible tranverse myelitis. After intraspinal injection into the lumbar space and in the absence of blockage, penicillin readily diffuses up into the ventricles, the cerebral and subarachnoid space, and over the convexes of the cerebral cortex. Clinically, no untoward effects were noted from repeated intraspinal injections of penicillin in the present series. It is noted that the advantage of the intrathecal administration of penicillin in pneumococcus meningitis is derived from the fact that a very high concentration can be maintained at the site of infection. In none of the nineteen cases was it necessary to administer penicillin into the cisterna magna or into the ventricular space directly. This latter procedure has been recommended by some authors, but the dangers, except when the process is in the most experienced hands, would preclude its widespread use. Cairns recently reported a case of palsy and dysphagia following intraventricular administration of penicillin. Another contraindication to the intraventricular route is that burr block present in the foramina of Luschka and Magendie or in the subarachnoid space would render valueless the intracisternal mode of administration. In our experience, the lumbar subarachnoid space is the preferred site of intrathecal injection and was used repeatedly in this series. Penicillin was administered by the intrathecal route, usually on a daily schedule. The number of instillations ranged from one to twenty, with an average of six injections for each patient. An individual dose of 5,000 units was routinely employed in all but three instances, while the total intraspinal dose of penicillin ranged between 10,000 and 100,000 units, averaging approximately 30,000 units per patient. It was considered expedient to continue the intrathecal administration of penicillin until the spinal fluid had been sterile for from four to six days.

Simultaneously, penicillin was administered intramuscularly on a two- to three-hour schedule. With the exception of two patients, both of whom died within six hours after entry, the total amount of penicillin given intramuscularly in this series ranged between

300,000 and 14,600,000 units, with an average of 2,800,000 units per patient. This amount was administered over the course of four to thirty days, an average of sixteen days for each patient. It was customary to continue intramuscular penicillin therapy for at least a week and preferably ten days after the temperature had returned to normal. As to the individual dose, it has been our experience that in order to achieve a good therapeutic concentration of penicillin in infants and children, it is desirable to give larger doses than one would expect on a strict weight-for-weight basis. Therefore, 10,000 to 30,000 units every two to three hours was administered, even to the infant age group."

The authors also have this to say in regard to the administration of the sulfonamides:

"Sulfonamides—In the treatment of pneumococcus meningitis, in addition to penicillin, sulfonamides should be given in relatively large doses. Toward this end it has been our practice to use approximately two to three grains per pound of body weight every twenty-four hours. Before sulfonamides are started, however, an intravenous infusion of either one-sixth molar lactate or 5 per cent glucose in Hartmann's solution is given in quantities approximating 20 cc. per pound of body weight, in view of the fact that many of the patients are dehydrated and oliguric on entry due to vomiting and inanition. Avoidance of the initial intravenous administration of sulfonamide drug diminishes to a considerable degree the instances of hematuria resulting from crystallization of the drug in the kidney when oliguria is present. Once having initiated a good urinary output, the dangers from hematuria are considerably less. The immediate infusion of crystalloid fluids such as one-sixth molar lactate or 5 per cent glucose in Hartmann's solution has the additional virtue of alkalinizing the urine and initiating the homeostatic acid-base regulatory mechanism of the kidney which is deficient in instances of oliguria and dehydration. No appreciable or significant delay is entailed in achieving an adequate blood-sulfonamide level when the subcutaneous mode of administration is employed rather than the intravenous route. Adequate levels of sulfonamide drug were usually considered to be in the range of 12 to 20 mg. per cent in our cases of pneumococcus meningitis; this was readily achieved by the administration of approximately two to three grains per pound of body weight in twenty-four hours, given by hypodermoclysis and divided into eight-hour doses. Sulfonamide drug given parenterally as the sodium salt is administered either in one-sixth molar lactate, 5 per cent glucose in Hartmann's solution, or in normal saline as a 1 per cent solution which is non-irritating under the skin. The parenteral mode of administration of sulfonamides was maintained until the patient was able to retain the drug orally. In infants where difficulty may be encountered in administering sulfadiazine in the powdered form by mouth, we have recently used sodium sulfadiazine (in 5 per cent solution) orally, and the infants seemed to tolerate it, receiving the entire dose intended.

"Four patients in this series developed hematuria within the first two to four days. However, in view of the urgency of maintaining the sulfonamide drug, it was thought inadvisable to discontinue the drug at that time. Fluids were forced intravenously, by clysis and by mouth. Bicarbonate of soda was administered and the dosage of sulfadiazine was reduced to 1 to 1.5 grains per pound of body weight. In all instances, the hematuria cleared up without any untoward complications."

In regard to the administration of serum, the authors state:

"Type-specific Antiserum—Since the introduction of sulfonamide drugs and prior to the advent of penicillin, type-specific antiserum was used in approximately one-half of the eighty cases seen at Children's Hospital from 1938 to April, 1944. In comparing the results obtained with sulfonamides alone and combined sulfonamide-antiserum therapy, it will be noted that only 5.3 per cent of the recoveries occurred with sulfonamides alone while 21.4 per cent of the recoveries were obtained with combined therapy, suggesting that antiserum contributed substantially to the frequency of recovery in pneumococcus meningitis.

"However, in the present series where combined sulfonamide and penicillin therapy was employed, type-specific antiserum was administered only in the first seven consecutive cases while it was routinely omitted in the next twelve cases. In the seven cases treated with type-specific antiserum in conjunction with sulfonamide drug and penicillin, there were six recoveries and one death. Of these seven patients, four were in the infant group (one year and under). In the twelve cases where antiserum was omitted, there were ten recoveries and two deaths; however, as will be described later, both of these fatalities occurred within six hours after hospital admission. Of these twelve patients, seven were infants. The average severity of infection at the time of entry was roughly comparable in both those who received type-specific antiserum and in those in whom it was omitted; therefore, the element of selection was probably minimal. There appeared to be no perceptible difference in course or morbidity in the cases where serum was not used. Because this series is small, it is difficult to appraise the value of serum as an adjunct in therapy when combined sulfonamide and penicillin is employed. It is possible that combined therapy may have minimized the need for type-specific antiserum. It would probably be safe to omit antiserum at the beginning of therapy and allow its necessity to be determined by the course of the infection.

"Supportive Therapy—Supportive measures are also indicated, including adequate amounts of fluid to combat dehydration, amino acid preparations, and plasma to repair protein deficit, as well as whole blood. All these have distinct value. The majority of the patients in the present series received at least one whole blood transfusion during the course of their illness."

In their conclusions, the authors say:

"1. Nineteen infants and children with pneumococcus meningitis were treated with combined sulfonamide and penicillin therapy. Of this number, sixteen recovered and three died. Two of the deaths occurred within six hours after entry. Three of the patients who recovered showed residual central nervous system sequelae.

"2. Diffusion studies performed on infants and children indicate that penicillin should be administered both intramuscularly and intrathecally to achieve therapeutic spinal fluid penicillin concentrations in meningitis.

"3. "Sulfadiazine was used in conjunction with penicillin in the present series. The combination of both drugs appears to offer definite advantages over penicillin alone. Therapy should be continued for at least eight to twelve days after sterilization of the spinal fluid.

"4. Of the nineteen patients receiving combined sulfonamide-penicillin therapy, type-specific antiserum was administered only to the first seven patients while it was routinely omitted to the next twelve. Of the seven receiving antiserum, there were six recoveries and two deaths. Because the series is small, it is difficult to appraise the value of antiserum as an adjunct in current therapy. It is possible that combined sulfonamide-penicillin treatment may have minimized the need for type-specific antiserum.

"5. Heparin was administered intraspinally in cases where chronic basilar meningitis developed, and was thought to have some value in the treatment of this complication.

"6. The importance of the early institution of therapy in pneumococcus meningitis cannot be overemphasized. If all the measures in present-day therapy are brought to bear as quickly and as vigorously as possible, the prognosis, even in the infant age group, is relatively good."

COMMENT

It is our opinion that this is perhaps one of the most important articles that we have had the privilege to attempt to abstract for the profession of Mississippi in many years. Since it is well known that pneumococcus meningitis has heretofore had a mortality rate of approximately 100 per cent, the treatment as outlined by these authors certainly demands the serious consideration of every physician in our state.

Only about six men in every 10,000 in the army die of disease now compared with 141 in the first World War. The death rate from all diseases, with the exception of deaths due to influenza epidemic, dropped from 14.1 (per 1,000 army strength) in World War I to 0.6 at the present time.

State Board of Health

Felix J. Underwood, M. D.

CHILD GUIDANCE CENTER

by

Estelle A. Magiera, M.D., Director

In September, 1943, the Mississippi State Board of Health established a child guidance program in the Department of Maternal and Child Health. This new program grew out of the recognition that the public health aspect of mental health, like that of physical health. is primarily prevention.

In our first annual report 1943-44,* we gave a detailed account of the clinical set-up, procedures, the specific duties of each member of the child guidance team, types, and number of cases and problems referred, and specific case histories. The past year has been a difficult one as we have worked under handicaps and personnel shortages.

The twofold program—therapeutic and educational—has obviously been an effective community service. The people in the counties served are becoming more aware of the importance of good mental health and the early recognition of behavior problems. This is evidenced by: 1. The increase of referrals from parents, teachers, juvenile court, probation officers, private physicians, public health personnel and others interested in the welfare of children, 2. increase in referrals of children presenting real emotional problems or antisocial behavior, 3. marked decrease in referrals of retarded neurological and defective children, and 4. requests for additional child guidance centers throughout the state.

With the limited personnel it was necessary to curtail the educational program during recent months. Speaking engagements were limited to professional groups. During the summer months we participated in the teachers' workshops and the orientation courses given health educators and medical students who worked with the State Board of Health.

Five mobile clinics are held monthly at Greenville, Laurel, Pascagoula, Tupelo, and Vicksburg. In the mobile clinics the health officer assigns to a specific person the responsibility of making appointments. This individual may be the supervising nurse, health educator, or dental hygienist. A schedule is sent from the Jackson office to each clinic with a tentative list of the number of new patients which can be seen and the names of cases to be returned for further treatment. The person responsible then chooses the cases on the basis of urgency.

When the staff arrives at the health department, a list with appointments for each hour of the day is ready for them. At the close of the day a staff conference is held and each case studied is discussed. Psychiatric implications are interpreted and progress notes are given on the cases being carried in therapy. The members of the staff discuss all the pertinent data, give a diagnostic summary and make recommendations for the treatment of the child. These conferences are attended by public health personnel, teachers, elementary supervisors, principals, school superintendents, welfare workers, and other referring agents who assume the responsibility for carrying out the recommendations outlined by the clinic team.

With a single team it has been impossible to meet the great demands for service. There has been much competition among the school principals in one clinic as to the number of children each school could refer. The elementary supervisor was forced to put each school on a quota basis. In another clinic where the referrals are handled by the health educator, the same competition for service was observed in the communities surrounding the clinic. Our policy is to see the most urgent cases as soon as possible; the others are placed on a waiting list. During the past year our case load was so heavy that we were urged on several occasions to give two days a month to some of the mobile clinics.

Requests to establish clinics in other counties have come from public health nurses, juvenile judges, teachers, ministers, parents, and probation officers. Since with limited personnel it is impossible to take on additional

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*See *Mississippi Doctor,* v. 22: 125-129, Oct. 1944; v 23: 659-661, May, 1946.

clinics, we have asked these people to send their referrals to the Jackson Center. The realization of the need for child guidance is shown by the greater number of fathers who have come with their children — thirty-two fathers have visited the Jackson Center and nearly that same number have come to clinics in other parts of the state. This paternal interest is an indication that fathers of this generation not only recognize their children's needs but that they themselves are anxious to take full share of responsibility for their care and development.

During the past year the juvenile court has frequently asked for diagnostic services on children who come to the attention of the courts. Magistrates recognize relations between crime and mental deviations which affect the emotional and volitional processes of human personality. We have supplied the court with such information concerning the personality of the offender, as they needed it when abnormality was suspected. It was gratifying to see that the law was concerned not only with the crime but also with the offender.

Although the child guidance program has had excellent acceptance and wholehearted coöperation, we have many times felt utterly helpless in making satisfactory disposition of cases because of the lack of necessary professional service and the very inadequate resources in the state. The unmet needs of the children of Mississippi are many. For instance, nowhere in the state do we have foster homes. In the schools there are no facilities for remedial reading. In the past twenty-one months we have seen twenty-seven children with reading difficulties. In this same period we have had twenty-nine children with speech defects who should have the benefit of training by a well qualified person. These resources are not available.

There is a great need for day care and nursery school service for children of employed mothers. In Jackson there is but one small nursery school which offers this service.

In only one community where we work is provision made in the school system for the child of low average ability. The public schools of Greenville provide an opportunity room for these children. Jackson, the capital and largest city in the state, has no such facility. We find many children who are below average and who are disciplinary and scholastic problems in the classroom because they cannot compete with the average child for whom the curriculum is set up. The school authorities are cognizant of the great need for special classes but so far have been unsuccessful in adding these to the general public school system. Yet, lacking these facilities, school people coöperate wholeheartedly. Teachers make every effort to handle the individual cases in the best way possible in the regular classroom.

We are repeatedly confronted with the problem of what is to be done with the defective child. The Feebleminded Institution at Ellisville is purely a custodial institution and has no facilities for a vocational training program for the higher grade defective, I. Q.'s 50-70. Furthermore, there are no private institutions for this type of child either in Mississippi or in the surrounding states. Last year professional groups in the state made an intensive survey of the institution at Ellisville and a comprehensive program has been outlined for a gradual reorganization to bring it up to the best possible modern standards. A good start has been made in this direction, and we hope that in the near future the institution will be one which will offer to each inmate the greatest degree of vocational and educational training for which he is capable.

We have found it most disheartening that nowhere in the state is there a detention home for juvenile delinquents. No county or municipality maintains a suitable detention home for children awaiting hearings, and no arrangements are made for temporary detention of the child with any public or private institution or agency caring for children. These young offenders must be kept in jail pending trial. The probation officers and juvenile judges are keenly aware of the inadequate resources for handling these young offenders and make every effort to segregate them from the adult prisoners and to make the best of a bad situation.

We are at a total loss in handling the colored feebleminded child as there are absolutely no facilities in the state. The Industrial School at Oakley for colored males will not admit the feebleminded child. Because of the crowded condition there, it is almost impossible to admit any child to this institution.

We see a great need for wholesome, constructive, recreational activities so necessary to personality development. The summer camps in the state are most inadequate. The Y.M.C.A., Y.W.C.A., Girl Scouts, and Boy Scouts cannot possibly meet the demand. Furthermore, no specific fund is available for the indigent deserving child to spend a week or two at a summer camp. The state and communities should assume some responsibility in assisting parents to fulfill their obligation towards their children by providing resources that assure protective surroundings and wholesome experiences for all children and adolescents.

The utter lack of facilities and the unmet needs of the children of the state have been repeatedly brought to the attention of its lawmakers. The awareness of these needs has given impetus to the organization of the Mississippi Children's Code Commission. In October of 1945 Governor Bailey appointed to this Commission eighty members representing the various public and private agencies in the state concerned with the promotion of the welfare of children. These people are to assume the following responsibilities: 1. to study the conditions in the state affecting the welfare of children, and the laws pertaining thereto; 2. to make surveys of the facilities of the various agencies and institutions responsible for the care, control and protection of children; 3. to recommend definite legislation for the establishment of minimum standards for the adequate care and protection of the children; and 4. to furnish informational and educational services obtained from the results of studies of the research of the commission and report same to the Senate and House Committees on Child Welfare Legislation. The members of the commission have been zealous workers in this cause and have already made a contribution.

It has been our consistent experience that when the people of the state are made aware of the nature and extent of a problem, they are eager to take steps toward remedying it. It should be the highest duty and privilege of every Mississippian to protect and conserve her most precious resources—the children of today who will be the citizens of tomorrow.

CASE 1. Kenny, aged twelve years, was referred by the principal of the school because he had failed a grade. His teacher reported also that he was a very retiring, asocial youngster who had difficulty in making an adjustment to other children.

During the psychological examination he was apprehensive and tense giving the impression of being a very insecure child. On the Revised Stanford Binet, Form L, he received a mental age of thirteen years and two months with an I.Q. of 105. In the Gray Oral Reading Test he received a B score of 3.4 which indicates that he reads two years below his present grade placement and four years below the average boy his age.

Although Kenny was in the sixth grade, he could not read third grade material. He showed a tendency to reverse letters and words and had difficulty in keeping his place on the page.

Kenny was one of identical twins. His brother Danny who was in the seventh grade was a happy, outgoing, sociable youngster. He made friends easily and did excellent school work. The parents considered him much superior to Kenny; as a matter of fact, the parents believed that Kenny was retarded and treated him so. The brother's friends teased him unmercifully for having failed a grade. His sister, who was ten years old, was in the fifth grade. She was a superior child. Kenny was extremely sensitive. When disciplined or in any way corrected, he immediately burst into tears. He was becoming more and more asocial and feelings of inferiority and inadequacy were well developed. Kenny told the examiner that he was stupid and that his sibs called him "dummy." These undesirable personality traits were of great concern to the parents. When interpretation of our psychological findings were made to Kenny's parents, they were greatly relieved to learn that he was not a retarded child but that he had a special disability for reading.

For our own information we tested Danny, Kenny's twin, and were very interested to find that his I.Q. was identical to Kenny's. A teacher was employed to tutor Kenny. Her understanding of the frustration which develops in a case of a bright boy with such a disability won Kenny at once. Although his reading progress has been rather slow, the personality changes in this child have been spectacular. Being reassured that he was not dumb inflated his ego. He was happy knowing that he was as smart as his twin. Kenny has become much more outgoing and social and is participating in many extracurricular activities this year. The family has released pressures on this boy and things are very happy in the family group as well as in school.

CASE 2. Judy was referred to the child guidance clinic by her pediatrician. For two weeks previous to the referral she had been having fears of anxiety. She couldn't get her breath, everything turned black, and she thought she was going to die. Each time that she had one of these spells her parents became very excited and rushed her to the doctor. The pediatrician would give her a thorough physical examination and the findings would all be negative. After the third episode the doctor referred her to the clinic.

Judy was a well developed ten-year-old with an outgoing type of personality. Tests of intelligence indicated that she had average intelligence and that her achievement in school was equivalent to her grade placements. She was well liked by her teachers and friends in school. The mother stated that she had been outstanding in school plays and had always participated in all school activities.

Until two months before the referral, Judy had been the only child in her family. She was the only grandchild and had been given a great deal of attention by the grandparents and particularly by an aunt who lived in the home. She was not prepared for the birth of the baby sister. She told the psychiatrist that one Sunday her father took her to the hospital and there she found the little sister. She overemphasized the fact that she "dearly loved" the little sister.

Although Judy was ten years old, she had never been given any sex information. Her parents had felt that she would not understand the birth of a child and had not explained anything concerning the arrival of the baby.

Very simply it was explained to Judy that she felt choked and her feelings that everything was becoming black were a result of her own feelings of being pushed out of the family group. It was explained to her that when she was a tiny baby, she had received as much care and time from her parents as the new sister was receiving at the present time. When it was explained to Judy's parents why she was reacting in this hysterical manner, they were able to understand and help with the problem.

REASONS FOR REFERRAL*

Scholastic problem	102
Nervous symptoms	42
Poor social adjustment	41
Mentally retarded	35
Stealing	35
Enuresis	33
Aggressive behavior	30
Speech defect	29
Truancy	27
Reading disability	27
Physical defect	25
Abnormal fears	18
Infantile behavior	17
Masturbation	15
Feeding problem	15
Withdrawn behavior	15
Delinquency	14
Disobedience	12
Thumbsucking	12
Temper tantrums	12
Sibling rivalry	12
Running away	11
Immature behavior	9
Fears	9
Lying	9
Sex problem	8
Stubborn	6
Question of school placement	6
Excessive crying	5
Stuttering	5
Hairpulling	5
Stammering	4
Irresponsible	4
Check forgery	4
Daydreaming	4
Tic	4
Vocational guidance	4
Refusal to talk	4
Question of home placement	4
Question of placement (Ellisville)	3
Conversion hysteria	3
Question of psychosis	2
Rebellion against parental authority	2
Overly conscientious	1
Hysteria	1
Question of placement (adoption)	1

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* A large majority of children present more than one referring problem.

PREVALENCE OF COMMUNICABLE DISEASES IN MISSISSIPPI

	Dec. 1946	Dec. 1945	Dec. 5-Yr. Aver.
Acute Poliomyelitis	20	7	7.6
Bacillary Dysentery	254	423	355.4
Dengue	0	0	0.0
Diphtheria	55	61	45.6
Influenza	4475	22950	15604.8
Measles	190	445	289.8
Meningococcus Meningitis	9	17	13.2
Other Forms Meningitis	4	9	5.0
Pellagra	125	85	140.0
Pneumonia	1456	2368	2072.4
Pulmonary Tuberculosis	359	105	165.2
Scarlet Fever	34	101	74.2
Smallpox	0	2	1.0
Tularemia	2	5	3.8
Typhoid Fever	6	2	4.6
Typhus Fever	8	21	9.8
Undulant Fever	16	1	5.0
Whooping Cough	462	311	539.2

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MONROE COUNTY AUXILIARY ORGANIZED

At the home of Mrs. W. N. Reed on January 23 doctors' wives of Monroe County were guests at a beautifully planned luncheon, for the purpose of organizing a county unit. Mrs. Stanley A. Hill of Corinth, state president, presided at the organization. Ten members were present.

Mrs. M. Q. Ewing of Amory became president of the group, Mrs. J. W. Jackson of Aberdeen, secretary-treasurer, and Mrs. R. T. Dabbs of Aberdeen, *Hygeia* chairman. The members will meet once each month, following the general plan of function of the state organization, with which it is affiliated.

LAUDERDALE COUNTY REORGANIZED

Mrs. H. Lowry Rush, councilor for the sixth district, called a meeting of doctors' wives of Lauderdale County for reorganization, presided over by Mrs. S. B. McIlwain, president-elect of the state Auxiliary. The group assembled at the public library, thirteen participating. Mrs. Stanley A. Hill of Corinth, state president, assisted.

Officers elected are: Mrs. W. J. Slaughter, president; Mrs. Guy Vise of Meridian, vice-president; Mrs. Albert C. Bryan of Meridian, secretary; and Mrs. David W. Griffin of Meridian, treasurer.

OTHER UNITS ORGANIZED

January seems to have been a busy month for the organization chairman. Although full reports have not been received of the Biloxi and Laurel meetings, Harrison County on the Coast, and Jones County have newly organized units.

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The Clinical Problems of the Rh Factor in Obstetrics*

DRS. NORRIS W. VAUX and
R. A. RAKOFF
Philadelphia, Pa.

IN THE few years since its discovery the Rh factor has aroused a tremendous interest because of the many fundamental problems with which it is associated, and has furthermore assumed a place of considerable clinical importance because **potentially** a goodly portion of pregnant women may be subject to Rh incompatibilities. In actual practice it is sometimes felt that the importance of the Rh factor is much overrated, because cases of erythroblastosis fetalis are rare, occurring only about once in a thousand pregnancies, and secondly because little can be done to prevent or treat the condition. Although it is indeed wise not to overemphasize the significence of the Rh factor in the minds of the laity, particularly in potential mothers who are Rh negative and who look forward to pregnancy with much anxiety because of what they have heard and read, the physician must not fail to appreciate the possibilities which full cognizance of the problem affords.

THE Rh FACTOR: The Rh factor is an antigenic substance commonly present in human red cells, specifically distinct from the major blood factors, A and B, and also from the subtypes such as M, N, and P. It was discovered in 1940 by Landsteiner and Weiner through the use of anti-Rh sera prepared by the injection of the erythrocytes of rhesus monkeys in rabbits, guinea pigs and other animals. It was found that the red cells of about 85 per cent of white persons were agglutinated by the anti-rhesus (anti-Rh) serum, whereas the remainder failed to react in this way. The former are referred to as Rh positive (Rh+), the latter Rh negative (Rh —). The Rh agglutinin has also the property of greater activity at 37° C. than at lower temperatures and is therefore termed a "warm" agglutinin.

It has been shown that the anti-Rh agglutinins in human sera are not at all identical and in fact at least three different types have been identified corresponding to three different Rh factors, sometimes designated as Rh_o Rh^1,* and Rh^{11}.* Fortunately anti-Rh_σ gives positive reactions in the 85 per cent of white persons designated as Rh positive, whereas the other two types give only 70 and 30 per cent positives respectively. For this reason anti-Rh_σ has been referred to as the "standard" or "diagnostic" anti-Rh serum and is the only one with which the clinician need concern himself. Levine states that 92 per cent of all mothers of erythroblastosis infants are Rh negative in tests with the diagnostic Rh_σ serum. In order to produce evidence of isoimmunization in the remaining 8 per cent is a matter for the serologic specialist, since it involves factors A or B of fetal blood, the Hr factor or finer differences of the Rh factor.

Although the Rh factor is inherited as a mendelian dominant characteristic, the Rh factor is antigenically and genetically complex, probably being caused by a series of allelic genes. These have been variously designated by different serologists and have given rise to a confusing number of terminologies.

THE Hr FACTOR. An additional factor discovered by Levine is named Hr. This is detected through the finding in the serum of an Rh-positive mother of an erythroblastotic infant, of an agglutinin which acted upon all Rh-negative bloods, as well as on all Rh positive bloods which did not react with anti-Rh^1 serum. Because the property is present in all Rh negative bloods it was designated as the opposite of Rh, that is "Hr." More correctly it should be designated Hr^1 since it is the opposite of Rh^1. This has been shown to be an important cause of intra-group sensitization in Rh positive individuals. Also the Hr factor is of importance in determining whether an individual is homozygous or heterozygous for the Rh factor. The Rh positive individual whose blood is not agglutinated by anti-Hr is homozygous for the Rh factor.

OCCURRENCE. It has been found by sampling of various population groups that approximately 85 per cent of all white women are Rh positive and 15 per cent are Rh negative. Among Negroes 5 to 8 per cent are found to be Rh negative, and only 1 per cent among the Chinese. In full-blooded American Indians Rh negative individuals are rare, occurring in less than 1 per cent of the group tested.

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*Read before the fifty-eighth annual session of the Mid-South Postgraduate Medical Assembly, Feb. 12, 1947, Memphis, Tenn.

*Rh^1, Prime; Rh^{11}, Double Prime.

ISO-IMMUNIZATION. An Rh-negative individual can be stimulated to produce "Rh antibodies" (anti-Rh agglutinins) by the injection of Rh-positive red cells, such as may occur by blood transfusion, intramuscular injection of small amounts of blood or passage of Rh-positive red cells from the fetal circulation to the maternal circulation during pregnancy. In the latter event "iso-immunization" of the mother may occur. The anti-Rh agglutinins are present in the serum and may pass from the maternal circulation through the placenta of the fetus, destroying the red cells and producing hemolytic anemia with its sequelae thus giving rise to the various clinical manifestations of fetal erythroblastosis. It is important to note that because of constitutional factors not every Rh-negative individual can be sensitized readily to the Rh-factor; indeed, in practice, only about one in fifty Rh negative individuals become sensitized upon exposure to the antigen. It is for this reason that intragroup hemolytic reactions occur in only about one in 300 patients receiving blood transfusions.

It is well known from the obstetric history of mothers of erythroblastotic infants that this condition, as a rule, does not occur in the firstborn. Usually the first, and sometimes the second or more Rh-positive infants are normal.

Thus one or more pregnancies are required to induce a state of iso-immunization sufficiently intense to produce the hemolytic condition in the following Rh positive infant. In the same way one or more transfusions with Rh positive blood may prove uneventful before iso-immunization sufficient to produce a serious reaction may occur. It is of utmost importance to recognize however that even the firstborn may be lost as a result of previous iso-immunization by transfusion or injections of whole blood. Not infrequently the patient may not recall or even know of administration of blood given during childhood. Evidence has been produced to indicate that once an Rh-negative individual is immunized, that person remains immunized for the remainder of his or her lifetime. Although immune antibodies may be demonstrable for comparatively short periods, the tissues responsible for the production of antibodies are capable of responding far more rapidly to the same immunizing stimulus even many years after the initial response. Furthermore the administration of even very small amounts of blood may serve to induce immunization in some individuals. Indeed it has been estimated that the passage of as little as 0.13 cc. of fetal blood may be required. For this reason it has been warned that the biologic test of Weiner, namely the injection of small amounts of blood to test for compatibility, may prove to be antigenic.

In the mechanism of iso-immunization during pregnancy it was at first necessary to postulate small breaks in the chorionic villi to account for the passage of red cells from the maternal to the placental circulation. There is now some reason to believe that the passage of certain red cell constituents rather than the whole cell itself is sufficient to carry the antigen.

DETECTION OF THE Rh FACTOR. The presence of the Rh factor may be readily determined by any one of several simple technics which have been described. These depend upon bringing a suspension of erythrocytes from the patient in contact with a potent standard or diagnostic anti-Rh serum at a temperature of 37° C. and examining for evidences of agglutination. Such diagnostic sera are obtained from patients who have developed high anti-body titers as a result of iso-immunization. Since such patients are comparatively rare, difficulty is sometimes experienced in obtaining good testing sera. There is reason to believe that good sera will soon be produced from laboratory animals, thus permitting better standardization of the test.

In the event that a prospective mother is found to be Rh negative it becomes necessary to test her husband. If he is found to be Rh positive the potentiality of an Rh incompatability arises, whereas if he is Rh negative no such difficulty will occur ordinarily, since the fetus will be negative. Although 12 to 15 per cent of all matings will be between Rh negative women and Rh positive men, fortunately only a small percentage (one in approximately 200) will result in fetal erythroblastosis because of the following factors:

a) The father may be heterozygous, in which case 50 per cent of the babies will be Rh negative.

b) Only one in fifty patients is capable of responding by the production of antibodies.

c) Where an Rh incompatibility exists the first pregnancy and sometimes the second and third frequently escape because sensitization has not occurred.

d) Occasionally a normal fetus is born despite active iso-immunization of the mother as indicated by the presence of a high titer of Rh agglutinins in her blood; possibly due to diminished permeability of the chorionic blood vessels to the agglutinin.

Rh ANTIBODIES. As soon as a pregnant woman is discovered to be Rh negative, it is important to test for the presence of antibodies in her blood. In the agglutination reaction, the maternal serum is used as the testing serum against known suspensions of Rh-positive red cells. By using various dilutions of maternal serum the "titer" of the Rh antibodies can be determined. In Rh negative women who have been pregnant before or previously transfused, it is wise to test for antibodies before the onset of pregnancy, since such antibodies may persist for a considerable time and if present afford evidence of previous sensitization. Rh antibodies should again be tested for, at intervals throughout the pregnancy. Some workers advocate testing for the antibodies only at the beginning of the period of viability, since there is little that can be done from a practical standpoint before then, and many patients do not show antibodies until late in pregnancy.

Rh BLOCKING ANTIBODIES. It is now well known that there are certain sera containing antibodies which will combine specifically with Rh-positive erythrocytes without producing any visible reaction except that the erythrocytes lose their capacity of being agglutinated even by potent anti-Rh sera. This "inhibitor substance" is present in more than 50 per cent of the sera of women who have been sensitized by transfusion or pregnancy.

Weiner explains this relationship by depicting the ordinary antibody as bivalent; that is, it is capable of uniting with the antigen of two red corpuscles. As a consequence when this type of antibody is present, red cells are joined and agglutination takes place. The "blocking" antibody on the other hand, is univalent; it unites with the antigen of only one red cell. When this union has taken place the red cells are no longer capable of agglutinating except when a serum factor ("glutinin") is present.

Therefore when the Rh test is performed with red corpuscles suspended in the individual's own serum or inactivated AB serum, the reaction takes place even when the "blocking antibody" is present. This is the basis of the "conglutination test" of Weiner.

DETERMINATION OF HOMOZYGOUS AND HETEROZYGOUS PARENTAGE. If an Rh negative woman is married to a homozygous Rh-positive man then all the infants can be expected to be Rh positive and therefore potential subjects of an Rh incompatibility. On the other hand if the husband is heterozygous (i.e. he carries both the Rh positive and Rh negative factor) it is statistically probable that about half of the offspring will be Rh negative and thus escape the incompatibility. In couples who have had one or more erythroblastotic infants it becomes particularly desirable to determine whether the husband is homozygous or heterozygous. To some degree it is possible for the serologic specialist to determine this by employing the three standard sera Rh^1, Rh^{11}, $Rh\sigma$ and also the Hr serum. Also determining the Rh on previous offspring may be helpful; thus if an Rh negative mother and an Rh positive father have one or more Rh negative children, the father is probably heterozygous. Also if either parent of the father is found to be Rh negative, the father undoubtedly will be heterozygous.

ERYTHROBLASTOSIS FETALIS. Hemolytic disease of the newborn usually is due to iso-immunization of the mother with the Rh factor. Although this condition is potentially possible in the offspring of 12 per cent of marriages it occurs in actual practice in only 0.1 per cent of marriages for the reasons already given. Schwartz and Levine found it to be responsible for approximately 4 to 8 per cent of a large group of consecutive stillbirths and neonatal deaths. As might be expected, Javert found that 92 per cent of mothers of erythroblastotic infants are multiparas. If erythroblastosis occurs in the firstborn almost 100 per cent of the subsequent infants suffer from the condition. In a study by Levine and Waller on approximately 700 Rh negative women, only 28 instances were found in which the first Rh infant had erythroblastosis fetalis. Of these, nineteen mothers gave histories of one or more transfusions prior to full-term pregnancy, while no such history could be illicited in the control group of nine mothers. Their findings justified the conclusion that previous transfusions initiate iso-immunization, which is intensified by the first pregnancy.

The typical picture of erythroblastosis fetalis is that of jaundice appearing soon after birth, enlargement of the liver and spleen and a variety of other symptoms such as somnolence, muscular twitching, occasional convulsions, vomiting and diarrhea, petechiae, ecchymosis, bleeding from mucous surfaces, edema, cyanosis, and respiratory difficulties.

If the child is born alive it may appear strong and vigorous at birth but unfavorable symptoms may appear very soon. Although death may occur in a few hours or days it occasionally may not supervene until the second or third week. In the blood stream a large number of immature red blood cells including normoblasts and erythroblasts are found. There may also be leucocytosis, eosinophilia or a monocytosis. The hemoglobin and red cell count is reduced but the color index is above normal.

The conditions which determine the severity of the fetal erythroblastosis and the clinical form which it assumes have been listed by Davidsohn as follows:

1) The age of the fetus when Rh antibodies begin to act on it.

2) The length of time the fetus is exposed to these Rh antibodies.

3) The strength of the Rh antibodies.

The titer of anti-Rh-agglutinins in the blood of the mother may or may not be a measure.

4) The permeability of the placenta. This may vary in different women and may vary in the same patient at different times during pregnancy.

It is the belief of many workers that in fetal erythroblastosis damage of the liver, parenchyma is the fundamental change responsible for the pathogenesis of the disease.

Wiener believes that the clinical manifestations depend primarily on the type of iso-antibody present in the maternal serum, particularly as to whether they are of the bivalent or univalent type. According to his theory erythroblastosis fetalis comprises two distinct syndromes.

1). Congenital hemolytic disease in which the syndrome is caused by the presence in the maternal serum of univalent antibodies specific for the red cells. When only small amounts of antibodies get into the fetal circulation, the infant is born alive, but develops an anemia which readily responds to transfusions. When larger amounts are present in the maternal serum, so that more passes into the fetus, the process progresses further, resulting in a stillbirth or a live infant with hydrops, an almost invariably fatal condition. In these so-called "pale" cases the characteristic pathologic findings are marked pale ascites, anasarca, splenomegaly, hepatomegaly, and microscopic extramedullary islands of hematopoiesis in the liver and spleen and hemosiderosis of the liver and spleen.

2). Erythroblastosis proper. This is caused by the free agglutinins. Since these are presumably larger molecules than the blocking antibodies because they are bivalent, they only rarely transverse the placenta during pregnancy. During labor and delivery, however, increased intrauterine pressure may milk such agglutinins into the fetal circulation. Although at birth the newborn infant may reveal no abnormality, within a few hours a deep jaundice with little or no anemia supervenes; the infant takes its feedings poorly, becomes stuporous, may have convulsions, coma and death usually supervenes. Wiener believes that this syndrome is due to the agglutination of the fetal red cells with the formation of thrombi in the small vessels and resulting damage to the liver and brain, in particular. Thus, kernicterus is not caused by jaundice per se, but represents a staining reaction of ganglion cells damaged by interference with the circulation. Fortunately only few infants with this syndrome survive but those that do may demonstrate a severe neurologic disorder often associated with mental deficiency and cirrhosis of the liver. In this connection it is of interest that Yannet suggests that certain cases of imbecility and idiocy now classified as of unknown etiology may be due to iso-immunization of the parent.

PREVENTION OF ERYTHROBLASTOSIS. Perhaps one of the most important concepts in the prevention of erythroblastosis is to guard against the non-intentional iso-immunization of the Rh negative female population. This point has been especially emphasized by Philip Levine. It has been repeatedly pointed out that the giving of small amounts of blood to young girls who may be Rh negative for the treatment of complications at the time of delivery, or acute infections of childhood, or transfusions for one reason or another before marriage, may sensitize the individual to the Rh factor. If erythroblastosis is to be prevented, the Rh of these children and young women must be known, and if they are Rh negative, only Rh negative blood must be used.

The common belief of the laity that known Rh negative women should not marry Rh positive men hardly seems justified when one considers that only one in fifty of these women will respond by producing antibodies during pregnancy; that some of their husbands may be heterozygous; that even if the husband is homozygous and the patient is capable of producing antibodies, if she has not been previously sensitized, it is very probable that the first and even the second pregnancy will result in a live, healthy child.

In a patient who has been unfortunate enough to have lost one or more pregnancies because of Rh iso-immunization, serologic study to determine whether the husband is homozygous or heterozygous is worth while. If he is homozygous Rh positive, another pregnancy should be avoided since almost certainly it will result in another erythroblastotic fetus. However, such an Rh negative woman who has given birth to infants with erythroblastosis may be successfully impregnated by artificial insemination with Rh negative sperm resulting in the birth of a normal Rh negative infant. Such instances have been described by Potter and Willson.

The administration of ascorbic acid and salicylates to similar Rh negative women during their pregnancy with the hope that the capillary transmission of antibodies from mother to fetus will be prevented or made more difficult has been suggested. Clinical results have not justified this belief.

Another approach which holds some promise for the future involves the competition of various antigens in iso-immunization by pregnancy. It is known that when an experimental animal is injected with a mixture of two substances, one a good antigen and the other a poor antigen, the antigenicity of the weaker antigen is often suppressed. The blood factors A and B are good antigens in man as revealed by observations made following inadvertent transfusions of blood of an incompatible group. On the other hand, only one in twenty-five to fifty Rh negative individuals respond to transfusions of Rh positive blood. Although specific desensitization of the mother by injections of Rh haptens has not proved practicable to date, it is possible that counter-immunization of the mother during pregnancy with a potent innocuous vaccine may serve to suppress the formation of iso-antibodies, and in that way prevent or diminish the severity of the disease.

TREATMENT OF ERYTHROBLASTOTIC INFANTS. As emphasized by Hess, treatment depends entirely on the condition of the infant at the time of delivery: If respiratory difficulty or cyanosis is present, this must be treated first. A red blood count should be taken immediately wherever erythroblastosis is suspected or expected. If the count is more than three and a half million, immediate transfusion need not be given. It is important, however, that the count should be repeated daily. If a fall in the red cells occurs then transfusion is indicated at once. Rh negative blood is the blood of choice in this instance, since this blood will not be destroyed by antibodies still circulating in the fetal blood stream. It will not, of course, prevent hemolysis of the infants on red cells. Repeated transfusions are necessary until the hemolytic processes of the disease are over. Rh negative erythrocytes are known to survive at least ninety days whereas Rh positive ones are destroyed within a few days of transfusion. Gimson has calculated the amount of blood for transfusing these small infants by formula, but finds that the amount of blood is usually around 60 cc. and the number of transfusions varies from two to six.

Several instances have been reported in which severely erythroblastotic infants have been saved by repeated removal of blood and its replacement by Rh negative blood until the entire blood volume has been replaced. If properly done this procedure has excellent potentialities in otherwise hopeless cases.

A much mooted question is whether or not a patient with a rapidly increasing antibody titer should be delivered by Caesarean section done at the period of viability. Although this procedure was strongly urged several years ago the tendency has been away from it recently. Babies delivered early have frequently not survived because of the additional factor of prematurity, which often is a greater hazard than the additional damage of the erythroblastemia. Moreover, on occasion, despite a rising antibody titer, the fetus, at the time of spontaneous, full-time delivery, is apparently healthy, for reasons already discussed above. On the other hand, waiting sometimes results in intra-uterine fetal death. Each case must therefore be judged on its own merit and constitutes a problem in clinical judgment.

(Slides: All mothers Rh positive with antibodies present; all fathers Rh positive; and all babies Rh positive with antibodies present.)

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CONFERENCE ON RURAL HEALTH

The Second Annual National Conference on Rural Health under the auspices of the American Medical Association was held in Chicago on February 7, 1947. We are sure great good will come from this conference. You will note below some excerpts from a paper read at this meeting by Albert S. Goss, Master of the National Grange:

"First let us look at the farmers' ability to pay doctors' bills under normal conditions. During the ten-year period 1921-30 the farmers' net income, as compared with non-farm income was $200 per capita as compared to $800 per cavita. During 1931-40 it was $150 to $580. During 1945, which can hardly be considered a normal year, it was $740 to $1260.

"Next let us look at it from another situation. On the average, farmers live a substantial distance from cities or towns where medical and hospital service is available. They cannot help that. The vocation of raising the food the nation needs requires some of us,—lots of us, to live way off from main street. Before the war in our 100 most rural counties there was only one medical doctor for every 1700 people. In our big cities there was one doctor for every 650 people. In most rural communities there are less than 2.0 hospital beds per 1000 people. In fact 1200 of our rural counties have no recognized hospital within their borders and these counties have a total population of 15 million people. Hospital workers tell us that we should have 3.5 or 4.0 hospital beds per 1000 rural people.

"Now let us look at the accident rate among farmers and those employed in industry. The accident death rate per 100,000 workers on farms during 1945 was 53; as compared with 19 in manufacturing industries. When it comes to less serious accidents, but those still requiring medical care, farm experience will show that most farm workers have one or more such accidents every year. Even the farm children are exposed to innumerable hazards. In considering farm accidents we must not forget that the farmer who suffers an accident is usually far from a doctor or a hospital while most industrial plants have medical service and hospitalization facilities on the premises.

Important Considerations in the Management of Fractures of the Hand and the Fingers*

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BECAUSE fractures of the hand and the fingers lend themselves to ambulatory treatment, patients with such injuries are likely to be diverted from hospital facilities to clinics and offices. From the psychologic standpoint, if no other, such policy tends to make them seem far less important than they actually are. A surgeon who is capable of the expert repair of injuries to the great joints is likely to consider repair of the minute condyles of the finger, with their sparse soft tissue support, which is a far more difficult undertaking, a task for an untrained interne. The apparent importance of these injuries is further minimized by the relatively small amount of space devoted to them in most texts on fractures. Yet the real facts of the matter are quite the reverse of what they seem. Bunnell, in his encyclopedic text on the surgery of the hand, has pointed out that injuries to the hand lead the list of industrial accidents and are responsible for a large portion of compensation payments. The statement is not exaggerated. A laborer may have residual stiffness in a neglected finger which will handicap him far more than a similar amount of lost motion in a major joint of the body. His employer will pay for his disability, and the costs in that industry will be correspondingly higher. Aside from these factors, disabled hands and fingers result in cosmetic disfigurement second only to marring of the face.

Because of their potential seriousness and the difficulties associated with their management, it has seemed profitable to review the fractures and dislocations of the hand and the fingers treated at the Vicksburg Hospital and Clinic during the year 1946. The types were much the same as those encountered in the average general hospital throughout the United States, and the problems to which they gave rise were the problems which surgeons everywhere encounter.

INJURIES OF THE METACARPAL BONES

Of the twenty-two metacarpal fractures treated during the period under review, only one, contrary to the usual incidence, occurred through the basilar portion of the first metacarpal bone. An important consideration in this type of fracture is whether or not the joint is involved. If it is, the use of thumb traction is necessary after reduction and the application of plaster. The single case of Bennett's fracture observed, which actually was a fracture-dislocation, had been previously treated at an Army post by the application of a tongue depressor splint.

The nine fractures of the distal metacarpal neck were treated by closed reduction and the application of plaster from the upper forearm to the dorsal palmar crease, the involved finger (fingers) being incorporated in the cast with the two proximal phalanges bent at an angle of ninety degrees. The single failure in this group of cases occurred in a patient who had previously sustained a fracture of the shaft of the same bone, the fifth metatarsal, which had healed with mal-union. Satisfactory reduction was maintained by the use of a rigid Kirschner wire through the distal heads of the fourth and fifth metacarpal bones for ten days. (Figs. 1-3).

The four spiral fractures of the shaft of the metacarpal bones were treated by immobilization in a simple forearm-hand cast; flat splints and roller bandages in the palm were not employed in any case. Fractures of the metacarpal bone are spiral or transverse, and while spiral fractures angulate and slightly over-ride, they are generally sufficiently controlled by the fascia and muscles of the hand. and minor degrees of deformity are not disabling. Transverse fractures of the shaft of the metacarpal bones, on the other hand, if they are materially displaced, give rise to disabling mal-union or non-union, and an approximate end-to-end reduction is therefore

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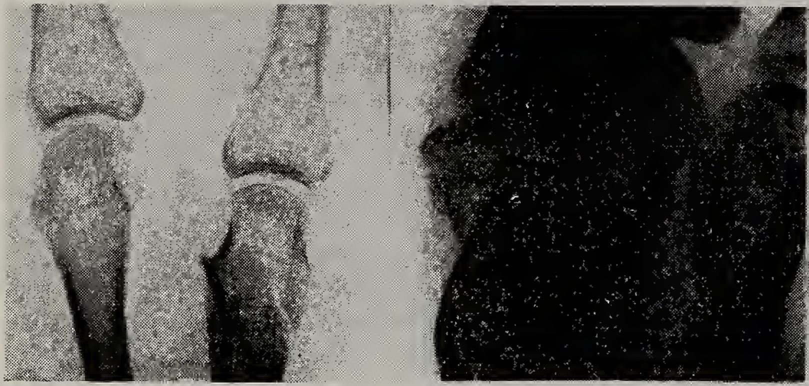
*Presented before the Northeast Mississippi Medical Society, Aberdeen, Mississippi, January 6, 1947. The complete paper dealt with all fractures treated at the hospital during the year and is too lengthy for publication in toto. A number of illustrations have been omitted from the section selected for publication.

†From the Section on Orthopedics, Vicksburg Hospital and Clinic.



Figs. 1 and 2: Fractures of distal neck of fifth metacarpus below level of old healed malunion of shaft.

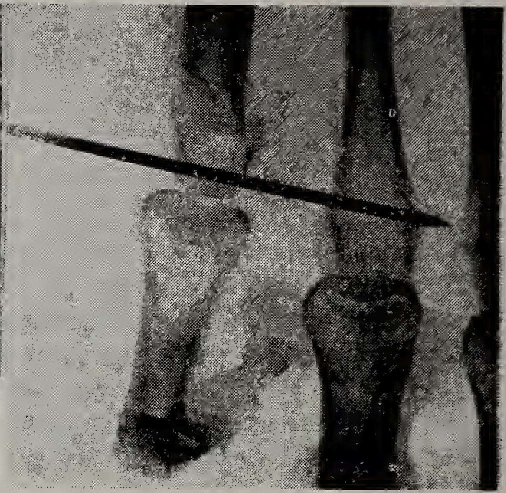
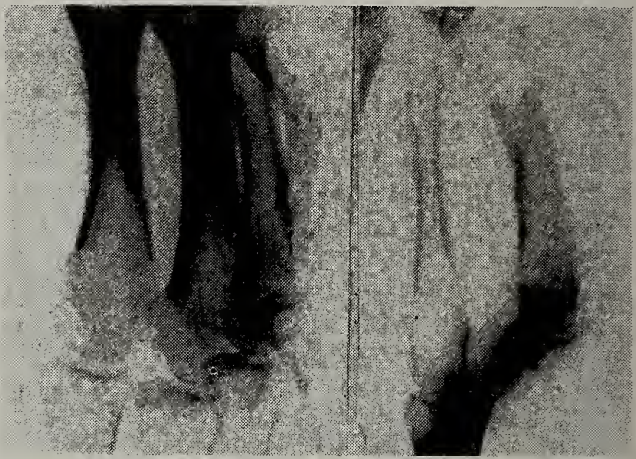


Fig. 3: Reduction with aid of transfixion wire.

necessary. If closed reduction is not successful, there should be no hesitancy in resorting to internal fixation. We prefer the use of "pull-out" wiring attached to an adjacent intact metacarpal bone. Our experience with intramedullary bone pegging for ununited fractures of the metacarpal bone, unlike Watson-Jones,' has not been happy. If the operation must be done, our preference is to use an onlay graft from the outer iliac table, since the iliac bone is flexible enough to mold to the convex surface of the metacarpal bone and is not too bulky to be incorporated into the hand. We were fortunate in 1946 in that none of the six fractures of the metacarpal shaft, including two compound fractures involving four bones each, required reduction.

Dislocations of the metacarpophalangeal joints are frequently not seen early, because they have been reduced by lay persons prior to medical consultation. During 1946 several "sprains of these joints were observed in which recovery was so slow as to warrant the opinion that the initial injury had really been a dislocation. In the occasional irreducible dislocation of the first and second metacarpophalangeal joint in which the long flexor tendons become incarcerated in the joint space, repeated attempts at closed reduction are not warranted and open reduction should be resorted to promptly.

Two compound dislocations of the metacarpophalangeal joints were observed in 1946. In the first case a motor saw had traversed the entire palm, the thenar eminence, and the capsule of the first metacarpophalangeal joint. Treatment consisted of open reduction, suture of the divided capsule, tendons and skin, and the application of plaster. Beginning on the seventh postoperative day six x-ray treatments of 100 r each were administered, as prophylaxis against hypertrophy of the palmar scar. The patient (Fig. 4) attained full, painless motion except for a fifty per cent impairment of flexion of terminal phalanx of the thumb, for which he declined tenolysis. In the second case, also a sawmill accident, the blade divided the four medial metacarpal heads with their overlying extensor tendons, dislocating the fifth finger, and severed its digital arteries. Treatment consisted of amputation of the head of the fifth finger obliquely at the level of the distal metacarpal head, suture of the tendons and skin, and the application of plaster. X-ray treatment was instituted, as in the former case. This patient was optimistic enough to settle his claim before he had established full motion of the three remaining fingers, and the end-results are therefore not known. Our practice, in all cases of this sort, is to attempt primary repair of divided tendons by means of stainless steel wire pull-out sutures. Sulamyd powder is placed in the wound and penicillin in aqueous solution is administered by the intramuscular route for forty-eight hours or longer after operation.

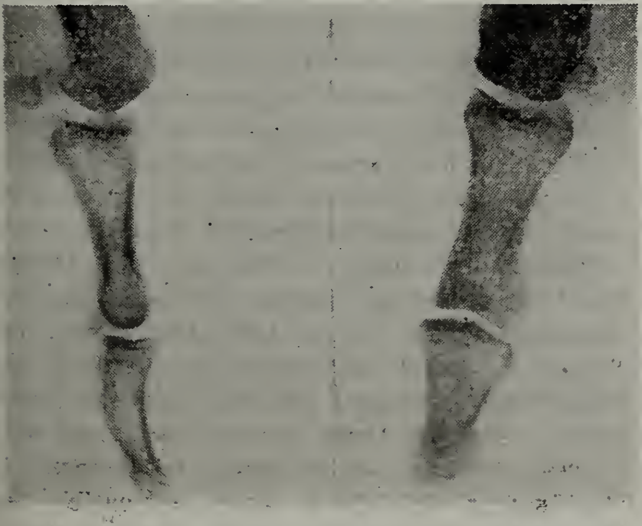


Figs. 4 and 5: Final result.

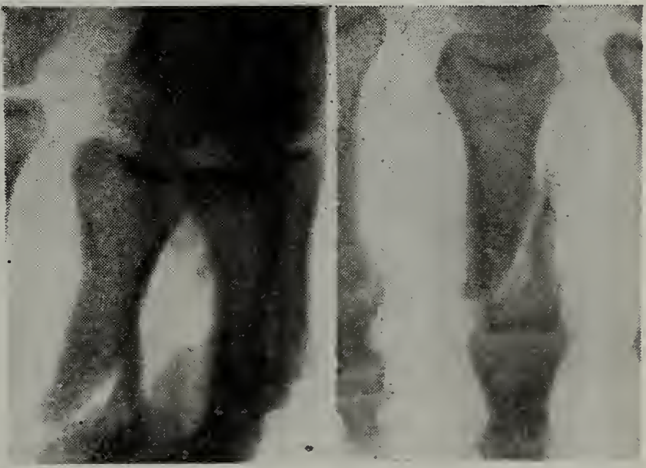
INJURIES OF THE PHALANGES

Fractures of the phalanges, unlike metacarpal fractures, require accurate reduction and lend themselves poorly to open reduction. It is our practice, if reduction cannot be maintained by accurately fitted splints, to apply traction by means of the passage of fine wire through the terminal phalanx of the injured finger. We have had no success with adhesive or pulp traction. We have not found Japanese finger grasps hazardous, as some have claimed, but have not found them practical because of the subjective inability of patients to endure the lateral pressure which they produce. Our personal preference in simple fractures is the use of malleable aluminum splints. The digits are splinted with each of the three joints in flexion except for fractures of the proximal half of the middle phalanx, which is usually splinted in extension. When the fingers are flexed, great care is taken to see that each is pointed toward the base of the thumb. Only in a layman's conception is the optimum position of the fingers parallel with the borders of the hand. In our experience clinical evidence of union is about five times as rapid as roentgenologic evidence.

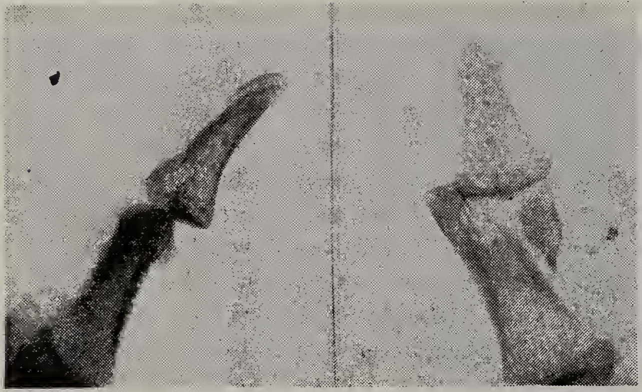
Reduction by the methods described was satisfactory in twenty-six of the twenty-eight fractures of the fingers observed in the Vicksburg Hospital in 1946. In both of these cases open reduction was resorted to, the position being maintained by stainless steel circumferential wires. In one case the results were good (Figs. 5-9). In the other, the tendons became extensively adherent to the fracture site, and the condition was not improved by later removal of the wire.


Figs. 6 and 7: Compound dislocation of first metacarpo-phalangeal joint with severance of all palmar tendons. One month after injury. Bony proliferation about basal phalanx did not limit motion.

Although Speed has estimated that a quarter of the dislocations of the terminal phalanx are irreducible by closed methods, we saw no instance of this lesion during 1946. Interphalangeal joints were observed, three of which were compounded. The usual uncomplicated case required only simple immobilization for a period of ten days. On the other hand, fracture of the condyle of the head of a proximal phalanx, entailed, as in Watson-Jones' experience, treatment under traction for at least three weeks. Open reduction offers little in this type of case, since the fragments cannot be nailed, even with a victrola needle, and there is not sufficient soft tissue support to permit fixation by sutures. In two of the three compound fractures about the interphalangeal joints observed at the Vicksburg Hospital in 1946 the injury was sufficiently extensive to warrent removal of a condyle from the proximal phalanx (Figs. 10-13). Both patients had limitation of motion and in both the distal phalanx tended toward angulation after operation. In two fractures in which a small chip seemed to be impinging on the joint during motion, correction was obtained by a simple excision of the chip under local analgesia.


Figs. 8 and 9: Fracture of distal end, proximal phalanx of middle finger, irreducible by closed treatment.

Figs. 10 and 11: Postoperative film.



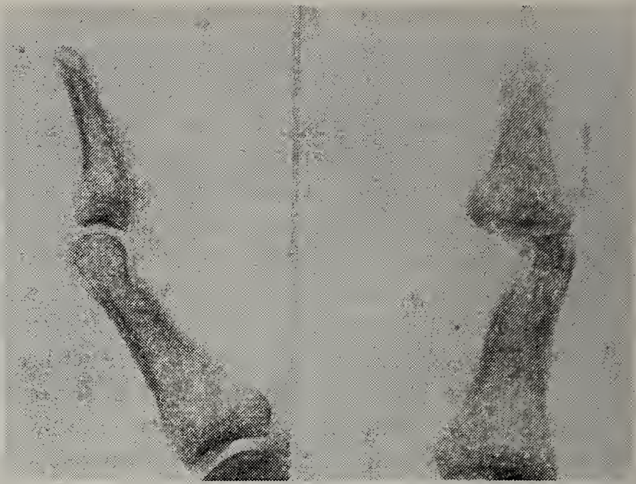
Figs. 12 and 13: Compound fracture of thumb interphalangeal joint.

Two fractures of the dorsal facet of the distal interphalangeal joint (the so-called baseball finger or mallet finger) responded to immobilization for six weeks in a special, thimble-like splint which hyperextends the distal joint and flexes the middle joint at ninety degrees. A third patient with an old injury of this sort with flexion deformity was examined for insurance purposes, but the surgical correction advised was refused.

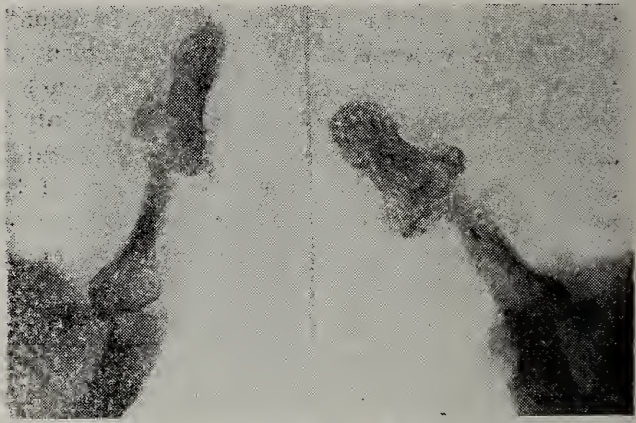
The commonest injury in the series was comminution of the ungual tuft, which occurred, according to roentgenologic evidence, twenty-seven times and in ten instances was compound. We do not débride such fractures. as is the policy in some clinics, but secure free drainage by partial or complete resection of the involved nail. In four cases treatment consisted of simple splinting, with prophylactic administration of penicillin in wax. Three of the four patients required sequestrectomy later, but the operation was simple, and the major portion of the ungual tuft and the nail were retained in all cases.

IRREPARABLE INJURIES OF THE HAND AND THE FINGERS

Irreparable injuries of the hand and the fingers were encountered in ten cases in 1946. In two cases traumatic avulsion of the finger tip had occurred, with partial loss of the ungual tuft. In each case immediate closure was done, with the use of a split-thickness graft from the upper arm. Both patients were satisfied with the results, and in each instance normal finger nails were secured. This is a very practical method of repair in injuries of this sort. Fatty tissue develops beneath the graft and the resulting stump is usually adequate. If it is not, one has still performed the essential preliminary operation for the application of a pedicle flap.



Figs. 14 and 15: Postoperative film. This procedure will yield useful result and fusion, after infection subsides.



Figs. 16 and 17: Postoperative film where entire thumb was retained in presence of so-called hopeless compounding. Patient had a useful thumb and did not require fusion.

When the avulsion involved the loss of substantial amounts of bony substance, amputation was performed more proximally, though every effort was still made to preserve maximum amounts of the substance of the thumb. In one case (Fig. 14) of partial avulsion of the thumb with loss of skin from the nubbin, immediate implantation of the raw stump into the subcutaneous tissues of the abdomen resulted in the ultimate retention of three-quarters of the proximal phalanx of the thumb and a smooth, well padded tip. The same procedure was followed in another case (Figs. 15-17) in which the patient requested amputation because all of the soft tissues over the dorsum of the thumb had been crushed, and there was gross loss of bony and joint substance. Each of these patients was left with a useful nubbin which could be opposed to the fingers and which made it possible for them to milk cows and perform other useful occupations.

While the instinct is always to save tissue, no matter how serious the damage, the question also always arises as to whether the retention of a badly damaged finger will be as much to the patient's interests as immediate amputation of the injured part. Whenever the thumb has been injured it is our practice to make every attempt to save at least a part of it. Our indications for amputation of the finger are more liberal, for obvious reasons. A colored man, for instance, presented himself with a hopeless infection of the right middle finger following a compound fracture sustained as the result of a hog bite. It was obvious that the injured digit could never regain the four essential finger functions—grasp, hook, pinch, and tactile discrimination—and there was the decided risk that its retention would be associated with risk of involvement of the whole hand by the infection. Amputation was therefore advised, but the patient refused it until the infection had involved the palm. The ultimate late amputation of the stiffened finger could not prevent the same degree of fibrosis and stiffening of the remaining fingers which would probably have been averted by earlier surgery.

In a somewhat similar instance a seventeen-year-old white boy, with multiple bony and tendon injuries of all the fingers of the right hand, refused amputation of the ring finger for six months. When he was first seen there were excellent chances for reconstruction of three fingers but the state of the ring finger was considered hopeless because of loss of all flexor tendons and of the bony components of the proximal interphalangeal joint. During the six-month interim successful development of a tendon graft to the index finger (performed in three stages after implantation of a stainless steel rod to serve as a bed for the new tendon sheath) was seriously interfered with by reason of the retention of the hopelessly damaged ring finger (Fig. 18). The boy actually underwent an arthroplasty and tendon graft upon the finger, although both procedures, as was predicted, were failures. On the other hand, a colored man with destruction of all proximal interphalangeal joints and extensor tendons was treated conservatively, with the fingers in extreme flexion, and attained a hand useful for grasping or hooking purposes.

Decision as to early amputation is not an easy one, particularly in women and young men, but the principle should be followed that a digit should not be retained if its retention compromises useful function in the other digits.

Figs. 18 and 19: Postoperative films of thumb stump where soft tissues had been avulsed at time of injury and replaced by primary pedicle flap from abdomen. Prints of x-rays do not show the excellent amount of soft tissue padding obtained.

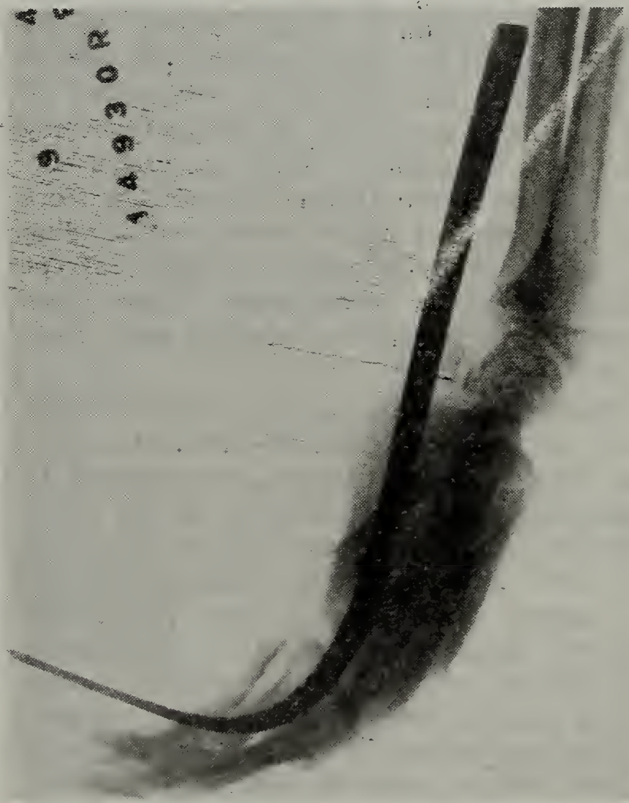


Fig. 20: Reconstruction of flexor tendon of index finger—film showing stainless steel rod placed in hand and finger prior to withdrawal for tendon graft.

SUMMARY

The fractures and dislocations of the hand and the fingers observed at the Vicksburg Hospital in 1946 have been discussed in their most important therapeutic aspects. It is urged that all such lesions be classed and treated as major traumas.

A Report on the Use of Cotton as Suture Material*

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MORE AND more surgeons are using cotton as suture material instead of catgut since 1939[1]. Several other non-absorbable suture materials have been popularized, but abundant proof of the superiority of cotton has been and continues to accumulate[2].

Far be it from me to disparage those who use catgut. The majority of our best surgeons use catgut almost exclusively, but my prediction is that when the virtues of cotton become better appreciated there will be wide adoption of its use, with absorbable and other material being used only when their particular qualities are specifically indicated.

After observing the work of Ochsner and Gage[3] using cotton as suture material during the latter part of 1939 and early in 1940, I became fully converted to the virtues of its use and have used it in the majority of my cases since. This report covers the use of cotton as suture and ligature material in more than five hundred major operations including all types met by a general surgeon, except vaginal work and hemorrhoids. These cases include clean, potentially infected, and infected cases.

Certain characteristics of cotton thread make it difficult to use at first. Its small size, lower tensile strength as compared to catgut, and its lack of elasticity all add to the difficulty of its use. However, these very factors tend to improve the surgeon's respect for tissues; he becomes a more gentle and anatomic surgeon. It should be emphasized that cotton or any non-absorbable suture should not be used by the rough, careless, fumble-fisted bull-in-the-crockery-shop type of surgeon who is always in a hurry. It is interesting to note that as one develops his technique for cotton sutures, he gradually uses finer ligatures and sutures. Experience quickly reaches the proper tension for tying cotton and soon the surgeon will not miss the warning "give" or "spring" to which he was accustomed with catgut, silk, and nylon.

Yes, there has been trouble arising, especially so during my first six months' experience in the use of cotton as a suture material. Several draining sinuses, many fascia and subcutaneous fat sutures failed to work out early enough to relieve my chagrin and embarrassment necessitating the fishing out of sutures with a crochet needle when I had much rather been on some stream using a fly or casting rod.

The above trouble was principally due to improper technique such as the use of too heavy suture material or heavy suture material in the wrong location, i.e., sutures too near the skin and failure to close dead space over the heavier sutures.

Halstead taught us years ago when using non-absorbable ligature material two precautions must be taken. The smallest effective size should be used and the stitches should be interrupted. Small cotton thread can be used because the material has great strength.

The necessity for always using interrupted sutures will be raised as an objection by many surgeons on the scale that they are time consuming. This is undoubtedly true, but when skill has been acquired in the use of cotton technique, the prolongation of the operation will not be great.

We have been taught and we have learned from experience that gentleness in the handling of tissues is the most important part of surgical technique. The gentle surgeon will not use large instruments, large sutures, ligate large portions of tissue, tie ligatures, or possibly scrub-sponge a wound. We that came up under Doctor Matas remember: "Approximate but do not strangulate."

The writer has used all sizes of cotton thread from number 8 to number 80 and has tried many different methods of preparations of sutures in different lengths, sizes, and wrapping for sterilization. At present we use principally number 30 six-cord crochet thread for fascia and other heavy sutures, cut in twelve- to eighteen-inch lengths, put up in skeins containing twenty sutures. This is folded and placed in a test tube one inch in diameter and four inches long with a plug of cotton or gauze sponge as a stopper. These are sterilized in the autoclave with gloves or linen. Number 60 spool cotton is used for ligation of smaller blood vessels and in approximation of fat over fascia sutures. Two or three yards are wound around salvaged catgut spools and placed in test tubes for sterilization and are used right off the spools for ties and sutures.

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*Read before the seventy-eighth annual session of the Mississippi State Medical Association, May 15, 1946, Jackson, Miss.

Number 10 or 20 crochet thread is used in many gynecological operations and conditions in the peritoneal cavity where strong suture material is indicated. These sutures are soon glazed over with peritoneum and cause no trouble. I have not hesitated to mix cotton and catgut sutures where it was thought necessary. This has principally been done in gastrointestinal work.

In the closure of lower abdominal wounds the procedure is as follows: number 30 crochet cotton as continuous suture in the peritoneum; wound is irrigated with normal saline solution; interrupted sutures of number 30 crochet cotton are placed about one-third of an inch apart in the fascia, tied with a triple throw square knot and cut right on the knot; the fat is brought together with number 60 cotton suture entirely covering the fascia suture line with fat and eliminating all dead space. In the more obese patients it is necessary to put in an extra row of sutures to close the fat. Cotton suture as continuous lock stitches works very admirably in closing the skin, but I prefer skin clips because they cause less pain to the patient when removed.

Wounds of the upper abdomen are closed in the same manner except number 20 crochet thread is used in the fascia and number 10 in the more muscular cases. When a wound is properly closed with cotton there is seldom if ever need for retention sutures.

In intra-abdominal infected cases (walled-off abscesses excepted) wounds are closed the same as in non-infected cases except five grams sulfathiazole crystals are used intraperitoneally, and in grossly infected cases one drain is placed beneath the fascia and another above the fascia—both being removed after twenty-four to forty-eight hours.

There are many factors that may affect the healing of wounds. The patient's general health plays an important part in the process of healing. In patients who are poorly nourished, with avitaminosis, hypoproteinemia, jaundice, and with certain systemic diseases there may be a disturbance in wound healing. This type of patient deserves, and usually gets, special consideration in preoperative and postoperative care in order to restore to as near normal as possible his rate of healing. All of these factors have been taken into consideration before passing judgment on the virtues of cotton sutures in the better healing of wounds.

Since the adoption of cotton as suture material, my wounds heal with less irritation, with practically no serum accumulation, quicker, firmer, with less discomfort to the patient, and with an average saving of seventy-five cents to one dollar on each case.

Even during my first experience in using cotton as suture material when draining sinuses were occurring too often to be comfortable, I had only one case of viscera eruption and that was in a sixty-nine-year-old male with a ruptured gastric ulcer. The sutures held, but the fascia gave way.

Impression: The use of cotton as suture material will make a better surgeon out of a good surgeon due to improvement in technique.

Conclusions: Non-infected and infected wounds heal quicker, firmer, are more comfortable to the patient, and postoperative hernias are practically a thing of the past when cotton sutures are properly used.

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3 Ochsner, Alton and Gage, Mimms; New Orleans, Louisiana.

DISCUSSION

DR. G. H. MARTIN (Vicksburg) — I would like to take this opportunity of congratulating Doctor Brock on a most timely and important paper.

After the work of Meade and Ochsner on cotton sutures, cotton has been becoming more and more popular in civilian use. However, during the war it gained wide use in the armed services especially in the Army. I did not have the honor of prolonged service in the armed forces, but I did receive my training under Doctor Ochsner. So, I have had some experience with cotton sutures.

I would like to confine most of my remarks to a technical discussion of Doctor Brock's paper.

In our operating room we have only five sizes of cotton, No. 80, spool cotton for ties, No. 50, spool cotton for ties, quilting cotton and No. 20 and No. 5 crochet cotton. The No. 80 and No. 50 spool cotton are wrapped on a rubber bobbin and sterilized usually by autoclaving, but can be boiled. It is important that the cotton be wound on some soft bobbin which can allow the cotton to shrink when it is sterilized. If it is wrapped on an unyielding surface the shrinkage which occurs will fray the fibers and cause the cotton to break. Quilting cotton is the suture which we use for closing practically all wounds. Quilting cotton is approximately a size 36 and unlike mercerized cotton which is treated by alkali to give it a sheen, quilting cotton is treated with a starch glace which gives it a sheen and causes it to have greater strength. The No. 20 and No. 5 crochet is a six-thread mercerized crochet cotton which is used in repairing large defects such as umbilical hernias or in ligating large vessels. No. 20 crochet is used routinely in this technique, but occasionally No. 5 is required, specifically in thoraric surgery for ligature of large vessels such as the pulmonary artery and vein.

Although J. P. Coats Company does not pay me for this "plug," we have found that their cotton is usually uniform in tensile strength and in quality, but we do make a policy of ordering the cotton from the factory for often if it is bought out of stores it has been on the shelf for sometime and may have deteriorated.

I am afraid that I cannot agree with Doctor Brock in his technique of using a continuous No. 30 crochet for the peritoneum. One of the axioms of the use of non-absorbable material is that interrupted sutures must be used. Therefore, we use an interrupted quilting cotton suture in the peritoneum or if one wishes to use a continuous suture, I believe that plain catgut would be better than a continuous suture of cotton, as cases have been reported in which cotton sutures left in the peritoneum have caused intestinal obstruction.

I must also disagree with Doctor Brock in the statement he made in which he said that cotton should not be used in contaminated or infected abdominal wounds. I have heard Doctor Ochsner say many times that if there was only one place in which he would use cotton, it would be in a contaminated or infected abdominal wound. It is perfectly true that occasionally a draining sinus may occur that it may spit a few cotton sutures, but I would much rather pick out a few cotton knots than have to repair a postoperative hernia. It is a well-established fact that in face of infection catgut is rapidly absorbed by the increased proteolytic action of the leukocytes. While cotton is unaffected and will remain *in situ* and continue to hold the fascia together in spite of infection.

DR. THOMAS WOLFORD (Columbus)—Dr. Brock is to be complimented upon his excellent paper on cotton sutures. I am always extremely interested in this subject as we have used cotton sutures in our work at the Columbus Hospital for the past six years and have found that when used properly, they have many advantages over other suture materials. The subject of wound healing has not been discussed and I would like to bring out the difference in wound healing using catgut and cotton. Where catgut is used a wound heals by "wet healing," showing a variable amount of exudation depending on several factors. Mass ligation of tissue, the use of large sizes of chromicized catgut and trauma all increase the exudation in the wound. This accounts for the edema in catgut wounds and adds to the discomfort of the patient. With the use of cotton suture material a wound heals by "dry healing" or exhibits less tendency toward exudation. These wounds heal more rapidly and are less painful. Catgut being a foreign protein induces exudation whereas cotton, being a plant fiber, shows less tendency to exudation.

I do not agree with Dr. Brock on the use of continuous cotton sutures. These, I feel, will only lead to future troubles as cotton should only be used in its smallest size; as interrupted sutures and cut on the knot as to leave no part of the thread free in the wound. I also find that it is a much more satisfactory skin closure than skin clips.

New Orleans kept medicine in liquid form during the war by having its Postgraduate Assembly each year. The latter part of February it held a very successful session.

Causes of Increased Intraocular Tension*

LYNE S. GAMBLE, M.D.

Greenville, Miss.

THE frequency with which partial or total loss of vision as a result of increased intraocular tension is seen is a constant stimulus to study and restudy the causes of this disabling disease.

No claim of originality is made for the concepts expressed in this paper, in fact, except for the generous coöperation of some of the outstanding ophthalmologists in this country the preparation of this paper would have been impossible.

A thorough consideration of modes of treatment of glaucoma is beyond the scope of this paper; however, it is felt that as the pathologic, physiologic, and pathologic anatomic changes are better understood treatment inevitably becomes more rational.

Regardless of the disagreement as to the mode and site of formation of intraocular fluid there is general agreement as to the importance of the chamber angle as the main channel of drainage.

The human chamber angle was first observed *in vivo* by Trantas in 1907. He used an ophthalmoscope and made pressure with a finger at the limbus. The examination did not become practical however, until the advent of the contact glass. The contact glass was first used by Frick. In 1914 Salzmann published a study of a series of cases of primary glaucoma, special attention being given to the presence or absence of iris adhesions. Koeppe in 1920 used the slit lamp and binocular microscope together with the contact lens to study the chamber angle. Troncoso[1] in 1925 invented a monocular instrument which he called the gonioscope. His work, together with that of Dr. Peter Kronfeld[2] and his group at the Illinois Eye and Ear Infirmary and that of Dr. Otto Barkan[3] on the West Coast, has greatly stimulated interest in the study of the chamber angle and has contributed largely to our knowledge of it.

By use of the contact glass, a source of illumination, and a binocular magnifying device satisfactory examination of the chamber angle can be made.

Orientation in the angle is facilitated by certain land marks. The junction between Descemet's membrane and the sclero-corneal trabeculum appears as a sharp white line (Schwalbe's line) often a narrow shelf. With the magnification used at this time the microscopic structure of the trabecular area (multiple fenestrated lamellae) is not revealed. The trabecular area appears as a white surface broken only by a variable amount of pigment, more marked in the portion lying adjacent to the canal of Schlemm. The trabecular area ends in a white band corresponding to the region of the scleral spur. Posteriorly the insertion of the meridional fibers of the ciliary muscle, and in eyes having very deep anterior chambers, variable portions of the anterior surface of the ciliary body may be seen.

Primary glaucoma is commonly classified on the basis of the presence of or the absence of congestion into acute and chronic congestive, and non-chronic, non-congestive, or simple glaucoma.

Gonioscopic study revealed two main types of chamber angle prior to the outset of the attack of glaucoma. The wide chamber angle was present in the majority of cases but in some cases the chamber angle was definitely narrow. It was found that most of the cases of non-congestive simple glaucoma had wide chamber angles, whereas the cases of acute and chronic congestive glaucoma had narrow chamber angles.

In eyes having a shallow entrance to the chamber angle the periphery of the iris appears to come forward so that it appears almost to touch the cornea in front of the trabecular area. As long as the major portion of the trabecular area is accessible even through the narrow entrance to the angle the tension remains normal. But as soon as the periphery of the iris actually comes into contact with the lateral wall of the angle over about half the circumference of the angle, the tension goes up. This movement of the periphery of the iris can be brought about by dilatation of the pupil or increase in the volume of the ciliary body. When the vascular system can no longer tolerate the high tension the eyes become congested. If the contact between the periphery of the iris and the lateral wall of the angle is permitted to persist for more than twenty-four hours the so-called peripheral anterior synechiae, permanent adhesions between the iris and cornea, form.

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*Read before the Section on Eye, Ear, Nose and Throat at the seventy-eighth session of the Mississippi State Medical Association, May 14, 1946.

Thus in an eye having a shallow chamber angle any circumstance which causes the blocking of the already narrow angle may precipitate an attack of acute glaucoma. This observation supplies an explanation for many of the recognized precipitating causes which may be grouped as follows:

Mydriasis group in which the angle is believed to be blocked by thickened iris tissue such as would occur following a period in a darkened moving picture theater or following dilatation of the pupil by midriatic drugs such as used for refraction.

Ciliary body congestion group in which it is believed that the mechanical pushing forward of the iris root by congestion of the ciliary body is a precipitating factor. This is thought to occur during emotional upsets or excitement, upper respiratory infections and surgery about the head.

Accomodative group. Definite forward movement of the ciliary zone of the iris can be observed and measured gonioscopically during accomodation.[4] Thus reading tends to decrease the chamber angle depth and in cases in which the angle is already shallow, may act as a precipitating factor.

In eyes having a narrow entrance to the chamber angle it has been found that a wide basal iridectomy usually provides satisfactory access of the aqueous to the chambel angle.

In most cases of primary chronic non-congestive or simple glaucoma gonioscopic examination reveals an apparently normal chamber angle. These cases may be classified as wide glaucoma. In a few of the cases there is an excessive degree of pigmentation in the trabecular area and it is assumed that this accumulation of pigment interferes with drainage.

Gradle and Sugar[5] have attributed the increased intraocular pressure associated with capsular exfoliation to blockage of the trabecular space by exfoliated material and have demonstrated flakes of the material in the trabecular area.

In primary infantile glaucoma (hydrophthalmos) total or partial absence of canal of Schlemm, failure of separation of the iris root, or congenital anomalies of the filtration angle, such as remnants of the embryonic tissues which line the trabeculum and angle recess (which may be seen gonioscopically) may be the cause of increased tension.

Secondary infantile glaucoma (buphthalmos) is usually associated with perforation of a corneal ulcer, formation of extensive anterior synechiae and obliteration of the anterior chamber and drainage angle.

This still leaves a large number of cases of glaucoma simplex unexplained. These have been attributed to a number of mechanisms which have not been definitely proved or disproved. The most logical are excessive production of intraocular fluid, sclerosis of the trabeculum with impairment of drainage,[3] and disease of the afferent blood vessels with consequent impaired capacity of the canal of Schlemm. (J. Friedenwald[6].)

As a result of a late complication cases of wide angle glaucoma of long standing may develop peripheral anterior synechiae of variable extent which may conceal their original wide angle character and may cause them to take on the clinical features of congestion.

Numerous operations have been devised for use in the wide chamber variety, the object of which is to provide an auxiliary route of drainage. In this group come iridotasis, iridencleisis and sclerectomy. One of the most satisfactory types of sclerectomy is the trephine operation of Elliott.

I have had no experience with the goniotomy in which the trabeculae are incised under gonioscopy observation. The approach is logical to say the least, however, the operation is too young to be definitely evaluated.

Increased intraocular pressure associated intumescent cataract and with neoplasms of the posterior segment is due to blockage of the angle by forward movement of the iris.

The increased tension so frequently associated with acute iridocyclitis may be attributed to the accumulation of the products of the inflammatory reaction in the chamber angle with impairment of function of the angle.

The displacement of the iris and consequent blockage of the chamber angle is responsible for the increased intraocular tension noted with occlusion of the pupil and complete posterior synechia.

The term hemorrhagic glaucoma has been suggested by Sugar[4] for that type of glaucoma following retinal venous occlusion and for that associated with diabetic rubeosis iritis. He attributes both conditions to the inflammatory changes resulting from disintegration and absorption of repeated large intraocular hemorrhages.

Development of glaucoma postoperatively in a previously non-glaucomatous eye, especially following cataract extraction can be attributed to many causes some of the most common of which are: delay in the reformation of the anterior chamber, postoperative iritis, blockage of the trabecular spaces by inflammatory cells or foreign matter, severe hemorrhage and invasion of the anterior chamber by epithelium.

Delayed restoration of the anterior chamber was studied gonioscopically by Kronfield and Grossman[2]. Delay in the reformation of the anterior chamber is caused by delayed closure of the wound which in turn is usually caused by incarceration between the wound lips of iris, lens, capsule or vitreous. It was found that in cases in which restoration was not delayed more than five days peripheral anterior synechiae formed but were not confined to the posterior fourth of the trabeculae area and in the absence of other pressure-raising factors glaucoma did not ensue. In these cases in which reformation was delayed more than five days the formation of the peripheral anterior synechiae was definitely more extensive and the development of glaucoma could actually be observed in these cases in which synechia formation was most extensive.

In cases of postoperative glaucoma the operation of cyclodiolysis has been found usually satisfactory. A communicating channel is established between the anterior chamber and the suprachoroidal space thus permitting absorption of aqueous from the suprachoroidal space.

Summary and Conclusions

Some of the causes of increased intraocular tension are reviewed. The role of the gonioscope is elucidated, with some of the mechanisms described.

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A grant of $5,000 from the American Cancer Society has been made to the Long Island College of Medicine for a study of steroid substances, including male and female hormones, according to an announcement by Dr. Jean A. Curran, president of the college.

The Mississippi Doctor

Published monthly at Booneville, Mississippi. Entered as second-class matter, January 19, 1926. at the post office at Booneville, Miss., under the Act of March 3, 1870. Annual subscription $1.00.

The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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CANCER DETECTION

L. W. Long, M.D.

The "all out" offensive by the medical profession and the laity against the cancer malady is on. Every physician in Mississippi is a soldier in the high-powered army aimed at extermination of the enemy. Every doctor's office is headquarters for the drive which is now on. It is not claimed that every case of cancer can be cured in the average office but "early detection" can be brought about in 90 per cent of the cases occurring in Mississippi. The people are being educated by the press and radio, as well as by talks in schools and other public places. They are, therefore, coming in to the physicians for bumps here and there on their bodies, or for symptoms that make them think they might have cancer, from what they have read and heard. What, then, is our duty in this "all out" offensive? The first is this, that of a complete physical examination with the introduction of the gloved finger into cavities of the body which admit it. The most frequently overlooked in such examinations are the mouth and rectum.

Every doctor's office in Mississippi is a "cancer detection station." Yet, many such offices are not being used for this work. We must rise to the emergency and aid more in this undertaking. A thorough physical examination on every person presenting himself is advised. It will be necessary to send some of these people for more detailed x-ray examination, or biopsy, or for consultation, but with a medical profession fully cognizant of our duty—and a willingness to do it—we can uncover many, many cases of cancer early enough to effect a permanent cure in the proper hands.

Cancer Detection in EVERY physician's office is a must if we are to meet our obligation to the public and to organized medicine. It is now time for us to awaken to our responsibility in early detection of cancer.

DOCTORS URGED TO FILL IN QUESTIONNAIRES

All doctors in Mississippi engaged in private practice of medicine have received a one-page questionnaire requesting vital information in the nation-wide Study of Child Health Services sponsored by the American Academy of Pediatrics. A one-day record of practice has been requested from each of the 1225 physicians thus engaged in this state. Questionnaires have been sent only to those physicians known to be in active private practice.

Data collected from the schedule filed by the private practitioner indicates his medical training after graduation from medical school, his use of pediatric consultant service, availability of hospitals admitting children, proportion of his total practice devoted to children, ratio of office, home, and hospital service rendered to all patients and time devoted to school-health services and public health activity.

Similar information is being supplied by 445 dentists in the state. The whole-hearted coöperation of the Mississippi State Dental Association has been pledged.

Twenty-four pediatricians in the state are participating. The pediatrician's participation includes the reporting of his own private practice for four consecutive weeks, including information concerning his hospital and postgraduate pediatric training; availability to him of hospitals admitting children; availability of laboratory facilities; the age and number of children seen; the ratio of office, home and hospital visits; telephone consultations and consultations with general practitioners; the proportion of practice given to health supervision, teaching, and public health activity. The pediatrician is also completing pediatric evaluation schedules for hospitals throughout the state to have pediatric and maternity services.

§

The Mid-South came back on February 11, 12, 13 and 14 with a record attendance. The program was good and the fraternal spirit very fine. Dr. Chas. Lutterloh was the able president, Dr. John Archer presiding quite a bit as vice-president from Mississippi, doing the job well as he always does in any capacity. Dr. J. C. Pennington of Nashville came in as president and Dr. Frank Acree of Greenville as president-elect. The Mid-South is a very popular meeting. The doctors like it, the exhibitors like it, and the essayists are usually delighted to be asked to appear on its program.

§

The doctors of Mississippi and the Mid-South deeply sympathize with Dr. G. S. Bryan of Amory in the loss of his devoted wife. Mrs. Bryan had been in ill health several years. She represented a fine type of Southern womanhood. Her going was a heavy loss for Dr. Bryan to sustain, but with a steady Christian faith, with the wonderful devotion of two fine daughters with their husbands and his faithful nurse, and the solid friendship of the profession, he will not falter.

The Mid-South Postgraduate Medical Assembly in session at the Peabody Hotel, Memphis, sent the following message on February 11: "We have learned of your bereavement and we as a body wish to express our deepest sympathy. Dr. A. F. Cooper, secretary, Dr. J. G. Archer, presiding."

§

Our state meeting this year will be held at Biloxi at the Buena Vista Hotel May 6, 7, 8. The time is not long. Make your plans to attend. We should attend our state association if no other. It is important from the standpoint of organized medicine as well as scientific profit. If you have not made your reservation, do it now.

§

The editor of the journal is again inviting all the doctors who have been in practice for fifty years to a luncheon during our state meeting. We hope we may have more than we have had in the past. Please let us know if you will be present.

§

Dear Editor:

Please grant me space for a brief valedictory to your readers, most of whom, I trust, are my personal friends.

After fifty-six years of married life and active practice I find myself both widowered and an invalid. But I am supported and sustained by two wonderful daughters and a loyal and faithful nurse who has been with me forty years. In addition I feel that I am surrounded by a circle of friends as warm and true as any man ever had or should want. However, the world seems large and it appears that there is much empty space. I wish that I might hope to contact my friends continuously. But since this may not be I hope that many of you will write to me frequently and visit me as often as you possibly can.

Yours sincerely,

G. S. BRYAN

Amory, Miss.

P. S. Please lend me your support and cooperation in my campaign for material for the Pictorial History of Mississippi Medicine

G. S. B.

News and Comment

ANNUAL MEETING, AMERICAN COLLEGE OF CHEST PHYSICIANS

The Thirteenth Annual Meeting of the American College of Chest Physicians is scheduled to be held at the Ambassador Hotel, Atlantic City, New Jersey, June 5 to 8. An interesting scientific program has been planned for this meeting. Prominent speakers from other countries will present papers.

Oral and written examinations for fellowship will be held on the first day of the meeting, June 5. Applicants for fellowship in the College who plan to take these examinations should communicate at once with the executive secretary, American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

The Convocation for new fellows and life members of the College will be held on Sunday, June 8. At this time certificates will be awarded to fellows and life members admitted since June, 1946.

PIKE COUNTY MEDICAL SOCIETY

On Thursday evening, February 6, the Pike County Medical Society held its first regular bi-monthly meeting for the year 1947 at the Palm Room of the McColgan Hotel in McComb.

After an enjoyable dinner a short business session was held before the special program of the evening was begun. Dr. Woodard D. Beacham, assistant professor of clinical obstetrics and gynecology, Tulane University School of Medicine, New Orleans, La., presented an excellent paper on the subject of ectopic pregnancy.

The following guests and members of the society were present: Drs. Woodard D. Beacham and Dan Beacham of New Orleans, La.; Drs. A. R. Lee and J. J. Pittman of Tylertown, Miss.; Dr. W. O. Biggs of Osyka, Miss.; Dr. F. S. Herrin of Summit, Miss.; Drs. G. W. Robertson and A. V. Beacham of Magnolia, Miss.; Dr. J. E. Brown, Jr., of Fernwood, Miss.; Drs. Thomas Purser, Sr., Thomas Purser, Jr., T. L. Moore, Jr., F. L. Butler, Gladys Ratcliff, B. J. Hewitt, Willis F. Cotten, E. M. Givens, R. H. Brumfield, and L. W. Brock of McComb, Miss.

In April the Northeast Mississippi Medical Society will meet at Oxford. Dr. A. H. Little of Oxford is president and Dr. W. H. Cleveland of Tupelo is secretary.

STUDENTS DO GOOD WORK

Dr. M. E. Lapham, dean of the Tulane University School of Medicine at New Orleans, in reply to requests for information about the ten students attending Tulane this year as awardees under the medical education scholarship program, says:

"I have checked the records of the students who are receiving aid from the Mississippi State Medical Education Board and find that they are all doing excellent work. I congratulate you on your selection of a very good group of students to assist."

CANCER COMMITTEE OF STATE MEDICAL ASSOCIATION

Association, presided over by the chairman, Dr. W. H. Parsons of Vicksburg, outlined a program as follows:

> To represent the State Medical Association in matters pertaining to cancer and to serve as an advisory board of the American Cancer Society, Mississippi Division, and to the Director of Cancer Control Program of the State Board of Health.

The Committee went on record as recommending to the Mississippi Division the American Cancer Society and to the State Board of Health that only hospitals meeting the minimum standards for Cancer Clinics in General Hospitals as set forth by the American College of Surgeons be eligible to accept cases under the program.

Minimum standards for Cancer Clinics in General Hospitals, unanimously agree upon by the Committee, were set forth as follows:

1. **Organization**—There shall be a definite organization of the service, and it shall include an executive officer and representatives of all the departments of the hospital which are concerned in the diagnosis and treatment of cancer. The services of a secretary and of a social service worker shall be available.

2. **Conferences**—As an essential feature of the service there shall be regular conferences or consultations at which the diagnosis and treatment of the individual cases are discussed by all members of the clinic who are concerned with the case.

3. **Patients**—Reference to the cancer clinic of all patients in whom the diagnosis or treatment of cancer is to be considered shall be either voluntary or obligatory in accordance with the vote of the medical staff or of the governing board of the hospital.

4. **Equipment**—In addition to the diagnostic and therapeutic surgical equipment which is required in every approved general hospital there shall be available an apparatus for x-ray therapy of an effectiveness which is generally agreed upon as adequate, and an amount of radium sufficient to insure effective treatment.

5. **Records**—In addition to the records which are required in every approved general hospital, there shall be additional records of (a) the details of the history and of the examination for cancer in different regions of the body, such as are indicated on the form records which are recommended by the Cancer Committee, American College of Surgeons; (b) the details of the treatment by radium or x-ray as indicated on the form records which are recommended by the Cancer Committee, American College of Surgeons; (c) periodic examinations at intervals for a period of at least five years following treatment.

6. **Treatment**—The treatment of cancer patients shall be entrusted to the members of the staff of the cancer clinic except in cases in which adequate treatment in accordance with the collective recommendation of the staff of the cancer clinic can be procured otherwise.

It was agreed that one paper a month devoted to neoplastic diseases should appear in the review section of the *Mississippi Doctor*. Also an editorial symposium for the *Mississippi Doctor* was suggested and it was agreed that this should be undertaken monthly by members of the Committee and Consultants in turn.

The matter of presenting a study of cancer fatalities was brought up and it was decided that Dr. A. L. Gray, Director of the Division of Preventable Disease Control of the State Board of Health, present such information at the Public Health Section meeting of the State Medical Association.

The follow-up of cases was discussed and it was agreed that county health officers should follow up cases whenever cases were referred for follow-up by physicians.

The matter of refresher courses was discussed and it was felt that arrangements should be made for these. It was suggested that symposiums over the state would perhaps be the best method for conducting such courses. The matter was left to be worked out with the State Board of Health by each member for his district.

The Committee agreed to meet again the evening preceding or the first day of the State Medical Association meeting in May. 1947, and all other meetings would be upon call of the chairman.

The following members of the Committee were present:

Dr. W. H .Anderson, Booneville
Dr. John D. Dyer, Houston
Dr. T. E. Ross, Hattiesburg

Consultants:

Dr. A. J. McIlwain, Jackson
Dr. R. H. Fenstermacher, Vicksburg
Dr. James G. Thompson, Jackson
Dr. N. C. Knight, Jackson.

Also the following were present:

Dr. A. L. Gray, Medical Consultant, American Cancer Society, State Board of Health; Dr. Felix J. Underwood, Executive Officer, State Board of Health; Mrs. Elizabeth N. Wates, State Commander, American Cancer Society.

Dr. D. D. Baugh of Columbus, Consultant, was unable to attend the meeting and the following members were absent: Dr. John C. Culley, Oxford; Dr. Hugh A. Gamble, Greenville; Dr. K. O. Stingily, Meridian.

INDUSTRIAL HEALTH MEETINGS

A conclave of combined professional personnel in industrial health work over the entire nation will take place at the Hotel Statler, Buffalo, N. Y., April 26 through May 4, 1947.

These meetings will represent the gatherings of the American Association of Industrial Physicians and Surgeons; the conference of the American Conference of Governmental Industrial Hygienists; the meeting of the American Industrial Hygiene Association; the conference of the American Association of Industrial Nurses, and the meeting of the American Association of Industrial Dentists.

STUDENT LOANS

Students interested in obtaining financial assistance under the medical education scholarship loan program are urged to contact Mrs. Maria Voskamp, Executive Secretary, State Medical Education Board, Jackson.

Deaths

DR. T. E. PHILLIPS

Services were held February 17 at the Alligator Methodist Church for Dr. T. E. Phillips. Burial was in Oak Ridge Cemetery in Clarksdale. He was fifty-nine.

Dr. Phillips had been ill for a long time. He was graduated from Tulane University in 1910 and served his internship in Chicago and Tuscaloosa, Ala. He served in World War I.

Dr. Phillips leaves his wife; two daughters, Miss Tommie Lou Phillips of Alligator and Mrs. Leverne Morgan of Sanatorium, Miss. A brother, D. O. Phillips of Tuscaloosa, and three sisters, Mrs. G. W. Tate of Lubbock, Texas, Mrs. A. T. Ford, Montgomery, Ala., and Mrs. D. C. Gilder, Lafayette. La.

DR. W. G. THOMPSON

Dr. W. G. Thompson, known throughout the western part of Tallahatchie County as the "country doctor," died February 11 at Enid.

Dr. Thompson, who administered to the sick in Beat One of Tallahatchie County for fifty years, died at Grenada Hospital, where he had been a patient for ten days. He was seventy-seven.

He was born at Enid, son of the late J. R. Thompson and received his medical education at the Louisville Medical School. He retired a year ago. During his early practice he rode horseback to tend to sick and carried his own "drug store" with him.

He leaves two brothers, Berch Thompson of Austin, Texas, and Shim Thompson of Enid.

DR. ROSS ANDERSON

Dr. Ross E. Anderson, 48, ear, eye, nose and throat specialist who practiced twenty years in Jackson, died January 15, after an illness of fifteen days.

Funeral services were conducted in Booneville, where the body was laid to rest.

Dr. Anderson, a native of Booneville and son of the late Walter G. Anderson, had resided in Jackson since 1926 and at the time of his death. A veteran of World War I, he was a member of the American Legion, a Mason and a Shriner.

He belonged to the American Medical Association, the Mississippi State Medical Association, the Central Medical Association, the Southern Medical Association, the American Academy of Otolaryngology, and was a diplomate of the American Association of Otolaryngology and a member of the Louisiana-Mississippi Otolaryngology Society, and of the First Baptist Church.

Dr. Anderson attended Mississippi College, where he received his B.A. degree, University of Mississippi and Tulane University at New Orleans. He did graduate work at George Washington University and served his internship at Mississippi State hospital.

He is survived by his mother, Mrs. W. G. Anderson who resides at Booneville; one brother, Walter G. Anderson, manager of the Western Newspaper Union in Memphis, and one sister, Mrs. Edmund Miller of West Point.

DR. HOWELL HOBBS AUSTIN

Funeral services were held in Vicksburg on January, 7, for Dr. Howell Hobbs Austin who died after a lengthy illness.

Dr. Austin, one of Warren County's oldest and most esteemed residents, was born in Florence, Miss., and came to Vicksburg with his family when he was twelve years of age.

He attended Millsaps College and later Memphis Medical School, where he received his M.D. degree in 1900. He then returned to Bovina, where he engaged in the practice of his profession. He retired from active practice about ten years ago. He was a member of the Methodist church at Bovina.

He is survived by one brother, F. L. Austin of Oak Ridge and eleven nieces.

DR. A. J. BROWN

Funeral services were held February 1 for Dr. A. J. Brown at Clarksdale. He was seventy-one.

Dr. Brown was for many years one of the leading physicians of Coahoma County. He was born in Lauderdale County, Miss., and obtained his medical education at the Chicago College of Medicine and Science, Chicago, Ill. He practiced medicine at Mattson before coming to Clarksdale.

About thirty years ago be came to Clarksdale to become a member of the Gray-Brown Clinic. Later he went to Allison Wells. For the past few years until his health failed he had been head of the Charity Hospital in Natchez.

Dr. Brown resigned two years ago and shortly thereafter came to Clarksdale when his health failed. He had been critically ill for several years prior to his death.

Dr. Brown was an able physician and had many friends in Clarksdale and Mattson and was recognized throughout the state for his ability.

Besides his wife, he is survived by his daughter, Mrs. Carrie Mae Frazier, of Memphis, and two
Brown of Memphis.
sons, A. J. Brown, Jr., of Sarasota, Fla., and Norman

DR. JOHN D. GREEN

Services for Dr. John Denton Green of Brooksville, Miss., were held at Mt. Pleasant Cemetery in Tremont, Miss., February 5. A widely known Mississippi physician, Dr. Green died in Memphis at Methodist Hospital after an illness of three months. He was sixty-seven. He entered the hospital in November.

Born in Tremont, Dr. Green studied medicine at the University of Louisville and at Loyola University in Chicago. He practiced medicine in Brooksville for thirty-five years. Dr. Green was also Noxubee County health officer for many years.

He leaves his wife, Mrs. Verna Cowden Green of Brooksville; a daughter, Mrs. R. H. Godwin, Jr., of Jefferson City, and a sister, Mrs. W. L. Dickinson of Tremont.

DR. JOHN A. MEAD

A large crowd of mourning friends and neighbors attended funeral services for Dr. John A. Mead February 11 in Hattiesburg.

Dr. Mead, who lived with his family at 115 North 22nd Ave., died suddenly at his office in the Carter building. He was sixty-one years old.

Following graduation from Vanderbilt University, Nashville, Tenn., Dr. Mead practiced in his home town of Logtown ten years and served as Hancock County health officer six years.

Dr. and Mrs. Mead came to Hattiesburg in the fall of 1928 from Logtown. In addition to his wife, Dr. Mead is survived by one son, five daughters and five grandchildren.

DR. W. W. REYNOLDS

Dr. William Weston Reynolds, 76, the dean of physicians in Meridian, died in the Rush Infirmary February 2, following an illness of two weeks.

Born in Oakland community, Newton County, on October 30, 1870, Dr. Reynolds received his early education in the Newton County schools and was later graduated from the Cooper Institute at Daleville. He received his M.D. degree from the Louisville Medical College at Louisville, Ky., and immediately on his graduation came to Meridian to begin the practice of medicine in 1896.

He served as Lauderdale County health officer from 1908 to 1912; was appointed a member of the State Board of Health in 1912; was past president of the Lauderdale County Medical Society; was a member of the faculty holding the chair of anatomy at the Meridian Medical College; served as superintendent of Matty Hersee hospital in 1939 and 1940 and since 1940 until the time of his death was a member of the staff of the East Mississippi State Hospital.

For many years he was surgeon for the Southern Railway, held membership in the East Mississippi, Mississippi, Southern and Amedican Medical associations.

Surviving are his wife, Mrs. Mary Hoye Reynolds; a daughter, Mrs Walker Broach, Meridian; a son, Dr. W. W. Reynolds, Jr., Memphis; a brother, Albert Reynolds, Decatur, Miss.; two granddaughters, Misses Hannes and Betty Broach, Meridian; two grandsons, Billy and David Reynolds, Memphis. several nieces and nephews.

Dr. Reynolds held membership in Central Methodist church.

God is my refuge and strength, a very present help in trouble (Psa. 46:1).

Interpreting Medical Literature

Staff of Review

Dermatology—James G. Thompson, Jackson
Otolaryngology—Charles R. Hume
Ophthalmology—Edley Jones, Vicksburg
Obstetrics and Gynecology—J. F. Lucas, Greenwood.
Orthopedics—Thomas H. Blake, Jackson.
Public Health—Felix J. Underwood, Jackson.
Pediatrics—Harvey F. Garrison, Jackson.
Radiology and Roentgenology—Karl O. Stingily, Meridian.
Pathology—R. M. Moore, Vicksburg, Miss.
Surgery—W. H. Parsons, Vicksburg.
Urology—Temple Ainsworth, Jackson.

DERMATOLOGY

1946, p. 715-716.

Cancer of the Mouth: Its Present Day Treatment. Walter Mayne, Am. J. M. Soc. 210: 548 (October) 1945.

Dr. Mayne provides an extensive review of various publications relating to the treatment of oral cancer, and points out the high incidence of five-year "cures," the percentage of cures ranking only below that for cancer of the skin and the breast in the hands of persons experienced with radiation and surgical therapy. With reference to carcinoma of the buccal mucosa Mayne discusses various therapeutic technics and the indications for their use. In the case of carcinoma of the tongue and the floor of the mouth he states that the therapeutic trend is toward irradiation rather than surgical removal. For treating carcinoma of the back of the tongue he favors the insertion of needles containing radium. For carcinoma of the tonsil, and the epiglottis it is suggested that needles of radium be injected through the skin to a submucosal level and that roentgen rays of 400 kilovolts or more be used conjointly. In cases of which the first treatment of radiation has not controlled the lesion or the greater part of the tongue is involved surgical intervention should be considered.

Dr. Mayne favors surgical therapy for mandibular cancer and for lesions of the hard palate but advises radon seed or contact roentgen rays for cancer of the soft palate.

Although the primary lesion in cancer of the mouth has a good prognosis when cared for by a competent radiologist or surgeon trained in the surgical treatment of oral cancer, the patient's survival is greatly dependent on the treatment of the cervical lymph nodes. Dr. Mayne expresses the belief that the majority of persons experienced in treating oral cancer prefer to treat the lesion of the mouth first, if radiation is to be the form of treatment, and then to watch the site of the primary lesion for several weeks in order to evaluate the control of the lesion. If they feel that the tumor is not responding to irradiation, they then believe that block dissection of the neck and surgical removal of the primary lesion can be combined in one operative procedure.

He states that the study of the statistics of those handling a large number of cases leads one to believe that the safest procedure in treating lesions of the cheek, the tongue and the floor of the mouth is to perform a block dissection of the neck as early as possible, waiting only to see if the primary lesion is controlled.

PEDIATRICS

Treatment of Pediculus Capitis in School Children with DDT Powder—Kaiser, Albert D.—American Journal of Public Health, 36: 1133 (October) 1946.

"Pediculus capitis is a common complaint among school children . . . In the Rochester schools during the 1944 and 1945 session, it was the second greatest cause of absenteeism.

"The louse deposits its eggs firmly to the hair. The incubation period of the egg is seven to ten days. Then follow three larval molts before maturity, with no pupal stage. The complete developmental cycle is sixteen days, and the average life of a louse is one month. The larvae must have food frequently to survive. They live chiefly on human blood. If well fed, the louse can live for ten days without food separated from its host.

"The head louse is . . . spread by direct contact from child to child or from an adult to a child. The head louse is eliminated easily. The usual methods employed are successful in killing the head louse if thoroughly applied, but frequently the treatment is not completed and recurrences are common.

"To simplify the treatment and control of contact, a preparation of DDT powder (ten parts DDT and ninety parts inert powdered talc) was utilized. Head inspections were made by the school nurse on all children in a grade and the infected child was treated by the school nurse. Utilizing a small atomizer, the DDT powder was sprayed on the child's hair, a paper towel being placed over the eyes to prevent any irritation. A towel or kerchief was placed over the scalp to prevent the loss of the powder and to hold the lice that came to the surface and the child was sent home with instructions to keep the head covered until bedtime. In the morning the hair was combed with a fine comb to remove the dead lice and as many eggs as possible.

"The child is permitted to return to school the next day following an inspection by the nurse. Even if the nits are not all combed out, the child remains in school and receives daily inspections until the seventh day, when another application of DDT powder is made, following a shampoo given the previous evening. At the end of the second week another inspection follows. If any nits are detected, a third application of DDT powder is made. Frequently this third application is unnecessary.

"The results have been most satisfactory. In all cases treated, the live pediculi have been promptly killed, usually within two hours. The removal of the nits has been thorough in many instances but incomplete in others. Thus far the treated cases have shown no recurrences within four weeks, which would seem to indicate that the repeated treatments have been effective either in destroying the eggs or in retarding their development cycle."

"The author states that "there have been no ill effects of any kind thus far and the treatment has evoked no resistance on the part of the children or adults so treated. In some instances parents have refused the treatment with the fear that DDT is dangerous. Ultimately this fear may be overcome, but at present no pressure is used to force this method of treatment on any individual."

"The author reports that "thus far 350 children have been treated. None of the children developed recurrences of live pediculi within a four weeks' period. Twelve children were later found to have live pediculi but their infection was from an untreated source in the home."

COMMENT: This is a brand new treatment for pediculi, and it sounds like it is worthwhile. It seems to me that it would be a valuable treatment.

State Board of Health

Felix J. Underwood, M. D.

POST-WAR MALARIA, 1946

by

Emil Kotcher

Medical Entobiologist

During the war years when malaria was an exceedingly important health problem to the military forces overseas, many public health officials expressed a fear that much of the good work done toward the eventual eradication of malaria in the United States would be nullified by the return to civilian life of the malaria infected veteran. No drugs were known that would act as a true prophylactic for malaria and no treatment was known that would eliminate all of the parasites from the body For about a year now thousands of veterans have returned to civilian pursuits. A statement may be made at this time in regard to the impact of the malarious veteran on the health of his community as well as the general trend in malaria.

In May and June, 1946, a blood film was made on 950 white veterans, the majority of who were attending the colleges and junior colleges in the state. The following data were obtained:

Number of slides examined, 950.

Number of veterans giving a positive history of malaria, 195 or 20.5%.

Number of blood films positive for malaria, 3 or 0.31%.

Number of veterans giving a positive history of malaria while in service, 169 or 18%.

Number of veterans giving a positive history of malaria since their discharge, 86 or 9%.

The type of malaria found in the three positives was **Plasmodium vivax.**

The State Hygienic Laboratory examined 14,011 blood films for malaria in 1946. Of this total only one film was found with **Plasmodium falciparum.** The number of positives for **Plasmodium vivax,** the tertian type of malaria, totaled 205. Except for a few slides, all of this vivax malaria occurred in men of military age who probably are relapsing veterans. No positives were found for the quartan type of malaria; namely, **Plasmodium malariae.**

For the past several years the Division of Preventable Disease Control in coöperation with the United States Engineer Department at Vicksburg has conducted a thick film malaria survey on inhabitants living within one mile of the shore line of the Sardis and Arkabutla Reservoirs. These surveys were made because impounded waters have been responsible for some serious malaria outbreaks. By making such annual surveys prior to and following impoundment of a river, it is possible to determine whether or not the incidence of malaria has increased in the area.

During September and October, 1946, a thick film malaria survey was made on the people living near the Sardis and Arkabutla Reservoirs. A survey was also made on the people living in the reservoir area of the proposed Grenada Reservoir. The following number of slides were made and examined:

Arkabutla Reservoir	1722
Sardis Reservoir	1588
Grenada Reservoir	1675

The astonishing thing about this survey is the fact that not a single positive blood film was found. These films were examined by technicians of the Parasitology Laboratory of the Communicable Disease Center, United States Public Health Service.

From the foregoing data and reports from other states where malaria was formerly prevalent, the indications are that malaria has declined in the past three years. It appears that the effective permanent malaria control measures carried out in years past, the current control methods which make great use of DDT residual spraying, the awareness of patients and practitioners in bringing a malaria illness under quick control—all of these factors have contributed toward the prevention of malaria outbreaks. The potentialities of such outbreaks were real when we realize the

communities and areas. In view of the favorable decline in malaria it is not too much to hope that some day in the near future with the diligent extension of drainage, the continuation of DDT residual spraying on a county-wide basis, the education of the people in the dangers of malaria infections—and most of all with the continued excellent coöperation of physicians in bringing malaria illness under quick control with such new and more effective anti-malarials as chloroquine (Aralen Diphosphate, Winthrop) we will see the eradication of malaria in Mississippi.

*****

RECENT ADDITIONS TO THE LIBRARY*

Arey, Leslie Brainard—Developmental anatomy, a textbook and laboratory manual of embryology. 5th edition. Sounders, 1946.

Burnet, F. M.—Virus as organism. Harvard Univ. Press, 1945.

Carpenter, S. J.—Mosquitoes of the Southern United States. 1946.

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Endocrine problems in general practice. Lippincott, December, 1946.

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Rand, Sweeny and Vincent—The young child. 4th edition, Saunders, 1946.

Rue, Clara B.—The public health nurse in the community. Saunders, 1944.

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Sherrington, Sir Charles—The endeavour of Jean Fernel. Cambridge Univ. Press, 1946.

Sinai, Nathan, et al.—Health insurance in the United States. Commonwealth Fund, 1946.

Skinner, Charles E. and Harriman, P. L.—Child psychology. Macmillan, 1941.

Steinhaus, E. A.—Insect microbiology. Comstock, 1946.

Strain, Frances Bruce—Teen days. Appleton-Century, 1941.

Wolf, Anna W. M.—The parent's manual. Simon & Schuster, 1941.

Wolff, Werner—The personality of the preschool child: The child's search for his self. Grune & Stratton, 1946.

*Books may be borrowed by physicians for a two-weeks period.

PREVALENCE OF COMMUNICABLE DISEASES IN MISSISSIPPI

	January 1947	January 1946	January Five-Year Average
Acute Poliomyelitis	7	7	3.4
Bacillary Dysentery	28	425	378.6
Dengue	1	0	2
Diphtheria	22	38	28.8
Influenza	399	20214	12427.6
Measles	63	1187	772.2
Meningococcus Meningitis	6	20	28.2
Other Forms Meningitis	4	2	4.2
Pellagra	3	138	129.2
Pneumonia	167	2594	2107.4
Pulmonary Tuberculosis	146	147	132.0
Scarlet Fever	36	70	76.4
Smallpox	1	1	1.2
Tularemia	9	5	4.2
Typhoid Fever	1	5	3.2
Typhus Fever	.	4	6.0
Undulant Fever	8	1	3.4
Whooping Cough	64	360	514.8

COMMENT:

The physicians should compare the number of cases of bacillary dysentery, influenza, measles, pellagra, pneumonia, and whooping cough reported in January, 1946, by the old system of reporting and those reported in January, 1947, under the new system of reporting. There is such a wide discrepancy in the two months' reporting that it indicates that many of the doctors have not adjusted themselves to the new reporting system. Physicians should realize that it is their duty to report all their cases so that they and the public may be kept informed of the prevalence of these diseases. There is no other way of obtaining these facts.

It was anticipated that the new system would take some time to become efficient in getting these essential facts, but sufficient time has elapsed that each physician should be acquainted with the new requirement and meet the problem by complete reporting. All physicians are respectfully urged to report all their cases so that the facts as to incidence of diseases will not be distorted.

WILKINS HEADS CHILD WELFARE CONFERENCE

Dr. E. LeRoy Wilkins of Clarksdale, National Area "C" Child Welfare Chairman, The American Legion, headed the Mississippi delegation to the AREA "C" CHILD WELFARE, rehabilitation, and employment conference of the American Legion and Affiliated Organizations, in Tampa, Florida, March 11-15, 1947. The welfare of the nation's children and of its veterans will be the concern of American Legion leaders from these states comprising Area "C": Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, Panama, South Carolina, Tennessee, and Texas.

§

PLANNED PARENTHOOD

An overwhelming majority of Americn physicians approve of birth control for economic and social reasons, as well as to safeguard health, the first scientific, comprehensive poll on the subject reveals. The results of this poll were announced by Dr. Alan F. Guttmacher of Baltimore to 600 leading supporters of the Planned Parenthood movement.

The Federation and its affiliated organizations are seeking $2,000,000 for an expanded four-point program of child spacing services, treatment for infertility, education for marriage and parenthood, and research.

For Sale – Hospital Clinic

Located in a wealthy eastern Arkansas city is this modern, complete clinic. The building is white brick, in excellent condition, is less than six years old and contains about 5500 sq. ft., 29 rooms. The clinic is completely equipped, furnished and stocked. Owner is seriously ill and must sacrifice for immediate sale. Price is $75,000 walkout, which is less than cost and far less than replacement cost. The net profit is amazing and can best be summed up by saying it should more than pay for itself in two years. This is truly an opportunity that comes once in a lifetime. Call or write Cecil New,

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Commerce Title Building,
Memphis, Tennessee

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YOUR CHANCE TO HELP

Fitness to fight cannot and should not be forgotten but fitness to work, fitness for family life, fitness for enjoying life are much more attractive and constructive goals. And now that the mass motivations of the united war effort are gone the tendency is greater than ever to live carelessly and to forget that there is a moral and patriotic duty to keep fit and in good physical condition. It is hoped that the Woman's Auxiliary will be alert to local school and community health conditions and will encourage local groups to request help in the solution of their problems through medical society channels. Requests for information and consultation services regarding local health and physical fitness problems will be welcomed.

BULLETIN

Haddon Hall will be the headquarters for the Annual Meeting of the Woman's Auxiliary to the American Medical Association, which will be held in Atlantic City, New Jersey, June 9-13, 1947.

Requests for reservations should be sent immediately to Dr. Robert A. Bradley, Chairman, Subcommittee on Hotels, 16 Central Pier, Atlantic City, New Jersey.

CENTRAL MEDICAL AUXILIARY

Mrs. John B. Howell, and Mrs. John B. Howell, Jr., of Canton, were co-hostesses to the Woman's Auxiliary to the Central Medical Society, March 4, in the lovely Howell home in Canton.

Mrs. W. F. Hand, president, presided over the business session at which time the following officers were elected for the coming year: Mrs. T. E. Wilson, president; Mrs. J. P. Wall, vice-president; Mrs. John B. Howell, Jr., secretary; Mrs. Harvey Garrison, Jr., treasurer; Mrs. T. W. Kemmerer, parliamentarian; and Mrs. F. A. Donaldson, historian. Mrs. J. Walton Lipscomb announced that April 29 had been designated as Doctor's Day and on that evening at six o'clock a party honoring the doctors will be given at the Colonial Country Club.

After the business meeting, the co-hostesses invited the members and guests into the dining room. The table was overlaid with an exquisite cloth and centered with an artistic arrangement of pink camellias, snapdragons and purple iris with tapers intermingled among the flowers. Mrs. Harvey F. Garrison served salads and Mrs. C. G. Bell and Mrs. A. P. Durfey presided at the coffee urns.

The following members and guests attended: Mrs. George E. Riley, Mrs. Walton Lipscomb, Mrs. W. L. Hughes, Mrs. Robin Harris, Mrs. Carter O'Ferrall, Mrs. Isaac Edwards, Mrs. N. R. Currie, Mrs. Alex Baines, Mrs. J. A. Chustz, Mrs. W. E. Noblin, Jr., Mrs. W. C. Thompson, Mrs. Ralph C. Bethea, Mrs. C. H. Denser, Mrs. L. W. Willey, Mrs. F. A. Donaldson, Mrs. L. T. Carl, Mrs. George E. Twente, Mrs. James W. Caden, Mrs. T. E. Wilson, Mrs. T. H. Blake, Mrs. Harvey Garrison, Jr., Mrs. Harvey Garrison, Mrs. G. C. Verner, Mrs. Harvey Johnston, Jr., Mrs. J. Gordon Dees, Mrs. Thomas M. Dunn, Mrs. T. W. Kemmerer, Mrs. Felix Underwood, Mrs. C. B. Mitchell, Mrs. H. L. McCalip, Mrs. Gilbert Darrington, Mrs. W. F. Hand, Mrs. P. R. Greaves, Mrs. Allen A. Lillienthal, Mrs. E. D. Kemp, Mrs. Rap Biggs, Mrs. A. J. McIlwain, Mrs. Joe C. Rude, Mrs. Guy R. Post, Mrs. Thomas G. Ross, Mrs. Frank Berry, Mrs. Luther R. Crull, Mrs. Walter Simmons, Mrs. Charles Ward, Mrs. H. C. Ricks, Mrs. R. A. Carsley, Mrs. G. G. Bell, Mrs. A. P. Durfey, Mrs. M. C. McCalip, Mrs. William M. Dabney and Mrs. Raymond F. Grenfell.

ISSAQUENA-SHARKEY-WARREN AUXILIARY

One of the most delightful meetings of the Issaquena-Sharkey-Warren Medical Auxiliary was held in the home of Mrs. B. B. Martin with Mrs. Edley Jones, Mrs. Charles Hume, and Mrs. B. B. Martin, Jr., assisting.

Mrs. Martin's spacious home was decorated throughout with camellias, jonquils, and gladioli.

Mrs. Augustus Street, President, presided at the business session. Mrs. Walter Johnston, chairman of the T.B. seal sale, gave an excellent report.

Mrs. W. C. Pool, program chairman for the meeting, graciously presented the guest speaker, Mrs. S. M. Montgomery of Blanton, Miss. She chose for her subject, The Biography of Oscar Wilde. Mrs. Montgomery in her charming manner read two of Wilde's short stories, "The Happy Prince" and "The Swallow and the Selfish Giant."

The guests were invited into the dining room where they were served delicious refreshments from a beautifully appointed table overlaid with a linen and lace cloth, an exquisite centerpiece of spring flowers and tall tapers in handsome silver candelabra.

ATTENTION, *HYGEIA* CHAIRMEN

Please send to me a report of the subscriptions and other promotional effort for *Hygeia* before March 20.

I also want to thank forty-five of the fifty doctors of the Northeast Mississippi Society whom I sent requests for subscriptions, for their prompt response! It was a wonderful start.

Mrs. W. H. Cleveland,
State *Hygeia* Chairman.

FROM THE PRESIDENT

All officers and councilors are urged to prepare and send in their annual reports before March 20. Please confine them to three minutes reading time. We shall want to send them to the national auxiliary.

COURTESY CARDS

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1098 Madison Memphis, Tennessee
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Peritoneal Adhesions*

P. E. SMITH, A.B., M.D., F.A.C.S
Hattiesburg, Miss.

THE DIAGNOSIS, TREATMENT and prevention of troublesome adhesions constitute a serious problem because operations for their lysis are so frequently unsuccessful. Physicians should exercise care in the use of the term adhesions, as this adds to the confusion which already exists among laymen, and admits operative failure which may be due to some co-existing condition, or the wrong diagnosis. Osler has stated, "The diagnosis of adhesions furnishes refuge for the diagnostically destitute."[1]

The importance of this problem is indicated by the frequency with which adhesions are found at operations and autopsies. Duff encountered adhesions on routine autopsies in about 90 per cent of the cases with a history of previous laparotomy and in 30 per cent of the cases without previous laparotomy. At operation, Nageli found adhesions in 80 per cent of 148 cases with previous laparotomy. Payr stated that 3.5 per cent of all major laparotomies are performed for the relief of intestinal obstruction from any cause. Of these, according to Christopher and Rockwell, 30 to 40 per cent are due to peritoneal adhesions[2]. At the Methodist Hospital, Hattiesburg, Mississippi, I have observed that adhesions were liberated as part of the operative procedure in 15 per cent of 741 laparotomies performed by various doctors during the year 1945. Probably the incidence was much higher.

It is my object to stimulate more interest in the problem of adhesions, which constitute a constant challenge to the profession. I propose briefly to consider the clinical features and methods of prevention to date, and discuss some personal views concerning the measures known to be of value in the lysis and prevention of adhesions.

That the subject is not new is recognized from an historical review of the literature. "For nearly 150 years," according to Boys, "the peritoneal adhesion has been recognized as a surgical entity and for over fifty years its etiology and pathology have been understood." Gay and his associates have pointed out that the historical development of knowledge of adhesions is divided into six periods: First, adhesion symptomatically established (1350-17550); second, the related structural change which explains the symptoms (1750-1800); third, the pathologic process that precedes and produces the structural change (1800-1870); fourth, causative factors which start the process (1860-1900); fifth, relief or cure of adhesions (1860 to the present); sixth, prophylaxis of adhesions (1860 to the present)[2]. Any one of these periods yields excellent suggestions for interesting research.

Adhesions may be classified as: 1) **congenital,** examples of which are pericolic membranes, Jackson's membrane or veil, Gersuny's adhesions of the meso-sigma, and Payr's double-barreled stenosis at the left colic flexure; 2) **acquired,** which may be inflammatory, postoperative, due to trauma from without, tumor transplants, endometriosis, or post-hemorrhagic.

Individual variation in the tendency to develop adhesions is recognized. A minor operation may result in extensive adhesions in some individuals, while few or none may follow a major operation procedure in others. Likewise peritonitis may or may not result in extensive adhesions. It has been observed by some that unexpected adhesions form in patients with keloids. In most cases, adhesions show a tendency to spontaneous retrogression, aided by torsion and pull of mobile viscera, but in a few cases they tend to be progressive. Whether these variations are the result of an hereditary diathesis or unrecognized defects in surgical treatment, is not known.

Clinical Aspectis—The following symptoms may be present: 1) intermittent gas pains, 2) constipation, 3) flatulency with loud borborygmi, 4) digestive disturbances, and 5) secondary disturbances referable to the nervous, circulatory and urinary systems. The complaints are often indefinite, but may simulate almost any abdominal disease. There may be little relation between the symptoms and extent of adhesions, as widespread adhesions may exist without symptoms. **Signs**—1) A previous laparotomy scar, 2) distention, 3) tympany, which may be local or general, 4) tenderness and rigidity which may or may not be present. Adhesions to the anterior parietal peritoneum may give rise to point tenderness as well as to a drawing or pulling sensation. Acute or chronic intestinal obstruction may follow any laparotomy, no matter how simple, from a few hours postoperatively to the end of life. and form the chief indications for operation. X-ray examination usually shows the distended intestinal coils and indicates whether the obstruction is partial or complete. Abdominal examinations under the fluoroscope following a regular barium meal give important information as to mobility, separability of parts and points of tenderness. Pneumoperitoneum combined with x-ray and the peritoneoscope have been used in the diagnosis of adhesions. Except in cases of acute intestinal obstruction, which must be diagnosed early and operated upon as an emergency, a period of observation and conservative treatment will aid in the diagnosis and discovery of any co-existing conditions. Finally, it may be necessary to resort to exploratory laparotomy as a diagnostic method.

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*Read before the Section on Surgery at the seventy-eighth annual session of the Mississippi State Medical Association, May 15, 1946.

Pathologically, the chronological development of the formation of adhesions has been summarized as follows: 1. There is initial injury to the serosa or subserosa. 2. A serious or sero-purulent exudate is promptly poured out of the sites of damage. 3. Within a short time this exudate coagulates forming fibrin. 4. The surfaces of adjacent organs adhere by means of these sticky fibrin coatings. 5. Unless the fibrin is removed or the fibrinous adhesions are kept apart by some means until healing has occurred, organization will occur resulting in fibrotic peritoneal adhesions[2].

The prevention of unfavorable adhesions has led to much experimentation and literature on the subject. Hertzler has aptly stated, "The idea of preventing adhesions has led to the introduction of anything that could be bent, poured, or powdered, with the usual result of making matters worse[3]. In June, 1942, S. F. Seely compiled and published in the **American Journal of Surgery**, methods employed to prevent adhesions, under the following headings:

I. Advoidance of trauma to the peritoneum.

II. Operative covering of denuded areas.

III. Mechanical separation of denuded areas by

1. Inflation of viscera
2. Interposition of
   a. Foreign, solid, or semi-solid material
   b. Viscid foreign lubricants
   c. Non-viscid foreign lubricants
   d. Gases,

IV. Anticoagulants (to prevent coagulation of plastic exudate).

V. Digestants (to remove plastic exudates).

VI. Postoperative movements of structures, and

VII. Stimulation of the peritoneal defense mechanism[3].

Concerning the substances used for the prevention of adhesions, Sweet states, "There is no more eloquent testimony to their ineffectiveness than their number and variety."[4] The use of most of them has been discontinued. The following have been used more recently, but time will not permit full discussion: Amniotic fluid concentrate was first used by Johnson in 1927 and a few still use it, but most of the reports from the literature present no evidence of its effectiveness.[2] For this reason I discontinued its use after two years. Papain, a vegetable digestive ferment obtained from unripe fruit of the pawpaw tree was first tested experimentally in rabbits by Kubota in 1922. Boys stated in 1942, "It should be particularly noted that critical appraisal of the evidence dealing with papain, at present perhaps the most popular substance for adhesion prevention, indicates that its supposed effectiveness is actually unproved both experimentally and clinically.'"[2] The simple crystalloid solutions according to reports from the literature, are of no value in preventing adhesions on the theories of mechanical separation of the injured surfaces, floating the bowel into new positions and stimulation of peritoneal leucocytosis. However, this method may be effective as a result of the dilution of the coagulation factors in the peritoneal exudate.[2] The latest substance to be used for adhesion prevention is heparin, an anticoagulant, which is native to the body. In 1935, Miki and Satani reported the first experimental use of heparin in the peritoneal cavity of the rabbit. Since then, experimental evidence indicates that heparin is more effective than any other substance previously studied. However, many experimental animals died of exsanguination. In December, 1941, Lehman and Boys published the first report on "The Clinical Use of Heparin in the Peritoneum for the Prevention of Adhesions" in fourteen cases. One of their patients died of hemorrhage. They conclude that heparin is promising, but the risk of hemorrhage is evident and that a very wide clinical experience is necessary to prove its value.[5]

Since none of the foreign substances which have been used for the prevention of adhesions have any established and conclusive value at the present time, surgeons must exercise the greatest care in the employment of the methods known to be of value. Actually this will reduce disabling adhesions to a minimum. The proposed measures are as follows: Adequate preoperative preparation of the patient with diet, tonics, vitamins, elimination, bedrest, and the use of continuous Wangensteen suction, or the Miller-Abbott tube to deflate the abdomen. The operation itself should be deferred until distention is completely relieved. The anesthetic should be one which gives the best relaxation and allows the intestines to gravitate into the posterior or upper part of the abdomen. The Trendelenberg position is of inestimable value in operations on the lower abdomen. All forms of damage to the peritoneum should be minimized by the gentle and unnecessary handling of the tissues. The incision should be located at the most direct approach, and long enough to prevent damage by unnecessary traction. Two incisions are sometimes advisable for best approach, and I have followed this in two cases. I prefer making the incision through the previous laparotomy scar instead of in a new area. If the scar is wide, it may be excised. A sharp metal scalpel is very essential. Gloved hands are the safest for retraction and for holding the intestines out of the way. Metal retractors would be better if placed down to the peritoneum instead of all the way through the incision. The use of gauze packs, either wet or dry, is one of the greatest causes of adhesions and should be avoided. I have discontinued the use of gauze packs, even in Caesarotomies, but there are some who still use them freely. Above all, they should not be too hot. Kredel and Smithey published an experimental report on "Adhesions from Hot Laparotomy Pads" and concluded that, except for hemostasis, they play a role in the formation of postoperative adhesions[6].

It goes without saying that strict asepsis is necessary because troublesome adhesions occur in almost every case of infection. Hemostasis should be adequate and immediate. Remove all blood clots and fluid with suction, but it should be remembered that damage can be produced by the suction tip or too much suction. I believe that fluids and clots can be removed from the abdomen by gentle sponging, preferably with moist sponges, without producing damage to the peritoneum, but most of the time, it is not done with sufficient gentleness. Place the minimum of foreign bodies in the abdomen either temporary or permanent. Even the powder should be washed from the gloved hands. The suture ends should not be left too long. Choose the operation which allows the sutures to be placed extraperitoneally when possible. Careful use of the finest suture material compatible with strength and atraumatic needles is advisable. Mass ligation of tissue should be avoided. Chemical solutions should not be used. All denuded areas should be thoroughly peritonealized. Eversion of the peritoneal edges in wound closure is good technique. Inversion of peritoneum to cover stumps of ligated vessels, amputated viscera, lines of anastomoses, etc., is essential. Liberation of pre-existing adhesions by sharp dissection should result in the reformation of less adhesions. This is sometimes difficult and requires a good assistant as well as experience. The adhesion is put on tension with gloved hands and nicked with a sharp scalpel in an avascular area. It is better to sacrifice some time in order to accomplish this with care. I believe that blunt dissection of adhesions will result in re-formation of more adhesions, because many times the adhesion is tougher than the organs to which it is attached. I have seen the omentum torn and intestinal perforations result from blunt dissection of adhesions. I have practiced partial omentumectomy when a portion of the omentum was damaged to such an extent that adhesion re-formation was inevitable. Larkin and Burnham report good results from this procedure and claim that it enhances the patient's chances of future good health.[7] The anatomical relations should be preserved and I see no reason why co-existing pathology in the field of operation should not be corrected. Postoperatively, the abdominal dressing should not be too tight and should be loosened as distention occurs. Ileus should be prevented by not forcing fluids too early, and by the use of the nasal tube if necessary. Early movement of patient in bed may be of value. Good nursing care is essential.

I have performed a number of laparotomies for the lysis of extensive postoperative adhesions in which the methods emphasized in the preceding paragraph were employed. Twenty of these cases have been followeed clinically from five years to three months. The results were good to excellent in seventeen cases. In three cases the results were fair, due largely to the co-existing conditions of chronic cholecystitis, drug addiction and gastric hyperacidity respectively. None has died or come to re-laparotomy, so it is impossible to determine the exact amount of adhesion reformation. Also it is recognized that an attack of acute intestinal obstruction could occur in any of these cases at any time.

SUMMARY AND CONCLUSIONS

A brief discussion of the methods known to be of value in the lysis and prevention of adhesions is presented. The twenty laparotomies for the lysis of extensive postoperative peritoneal adhesions performed according to the measures advocated above is a small number, but the absence of mortality, low morbidity, and good results serve to prove their value in a practical manner. Good clinical results may be expected from the strict application of these measures which constitute the most modern treatment and prevention of adhesions. In the future, if some supplementary substance is proved to be of value, these principles of surgery will continue to be axiomatic.

RECORD OF OPERATIONS FOR LYSIS OF EXTENSIVE POSTOPERATIVE PERITONEAL ADHESIONS

Initials	Age	Sex	No. of Previous Laparotomies	Date of Operation	Results
R.C.M.	49	F	2	8-30-40	Excellent
O.D.H.	38	F	1	9-11-41	Good
S.B.	29	M	1	9-19-42	Fair, chronic cholecytitis
P.Y.M.	27	F	1	2-16-44	Good
B.C.	32	F	1	2-23-44	Excellent
N.H.	29	F	1	3-28-44	Excellent
W.R.M.	35	F	3	9-19-44	Excellent
E.M.	26	F	1	9-30-44	Excellent
T.C.M.	39	F	5	10-28-44	Excellent
L.E.D.	35	F	1	3- 8-45	Good
H.J.P.	49	F	1	4-19-45	Excellent
G. K.	51	M	3	5- 8-45	Fair, gastric hyperacidity
C.B.	33	F	1	5-25-45	Excellent
C.H.	55	F	1	5-29-45	Good
H.L.G.	36	F	2	6-23-45	Excellent
M.L.J.	31	F	2	9-17-45	Excellent
O.H.S.	23	F	1	10-16-45	Excellent
L.E.F.	38	F	5	11-20-45	Fair, narcotic addict
K.R.	37	F	1	1-19-46	Excellent
W.M.M.	45	F	1	1-22-46	Good

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DISCUSSION

DR. GILRUTH DARRINGTON (Yazoo City)—I wish to congratulate Dr. Smith on this splendid paper. I do not recall having heard a paper on this subject in the society before. It is broad and important in its scope and the doctor has presented it in so thorough a manner that I see little that I can add other than emphasize a few of his salient points.

Adhesions are any band or patch by which parts abnormally adhere, and are usually nature's reaction to injury. They are not always detrimental to the patient. In fact, they are often life-saving in nature, such as the adhesions that seal a penpoint perforation of a viscus, or wall off a ruptured appendix These adhesions usually occur spontaneously and are part of nature's defense mechanism.

The adhesions that form following trauma or operations are the ones that usually produce harmful symptoms, and are to be avoided when possible. I shall review a few of the fundamental rules already mentioned that might lessen the formation of these bands.

(1) Approximate serous surface to serous surface. A careful peritonealization of all raw surfaces whenever possible.

(2) Leave no bleeding in the peritoneal cavity. It should be as dry as possible.

(3) Gentle handling of tissue.

(4) Avoidance of drainage whenever possible.

(5) Avoidance of irritants in the peritoneal cavity, which may include sulfonamide drugs. This will probably be discussed further.

These are just a few of the many factors that might influence the formation of adhesions.

A few words in regard to adhesions as an alibi:

An alibi which enables a surgeon to permit his conscience to allow him to open an abdomen in the absence of a definite diagnosis and the patient only present vague and indefinite symptoms.

An alibi that enables a surgeon to report postoperatively to the patient or his family that he broke loose some harmful adhesions when really he found no pathology. This sort of practice I only mention—simply mention.

DR. R. H. CLARK (Hattiesburg)—I should like to congratulate the essayist on his thorough coverage of this very interesting subject and upon his excellent results in the cases presented.

Let me reëmphasize the measures for prevention of adhesions by limiting peritoneal injury: 1) gentle handling of tissues, 2) aseptic technique, 3) prompt hemostasis with minimum tissue devitalization, 4) avoiding contact with chemical solutions in the peritoneal cavity and careful protection of skin by drapes, 5) avoidance of thermal injury by hot solutions, 6) prevention of prolonged contact with air and drying of tissue, 7) careful covering of denuded areas—I still invert the appendiceal stump, 8) careful closing of peritoneum with turning out of raw edges, 9) avoidance of leaving any unnecessary foreign body in the peritoneal cavity.

It is interesting to note that all pyogenic organisms do not produce fibrin and adhesions to the same extent. Gonococci, staphylococci, streptococci and colon bacilli are the most common organisms in peritoneal infections. GC and staph. are prolific fibrin producers, especially GC. Both are prone to produce permanent type adhesions. Colon bacilli and strep are very poor fibrin producers. Pure strep and Colon B peritonitis give very poor prognosis since the toxins of these call forth insufficient fibrin to permit walling off of the infection. Unfortunately, infection with these is often mixed with staph which improves prognosis but increases adhesions.

Intraperitoneal heparinization for the prevention of re-formation of divided adhesions by prevention of coagulation of fibrin appears to offer some hope of benefit, but, as stated by the essayist, the danger of hemorrhage is real. Lehman and Boys had one fatality in a series of fourteen cases due to hemorrhage, but they state that this patient was badly chosen since the operation was done about two weeks after a previous laparotomy for obstruction so that the peritoneum contained granulation tissue at the time the heparin was introduced. They believe it proper to use intraperitoneal heparin in the group of cases that have had previous obstructive episodes. provided no active granulation tissue is present and hemostasis is perfect. They stress the importance of close observation for signs of hemorrhage and state that cessation of heparin administration and adequate transfusions should prevent fatality from this source. They gave heparin after operation and through an inlying catheter at twelve-hour intervals for six subsequent doses to a total of 40,000 units.

It's generally conceded that the sulfonamides are best given by mouth or parenterally and not applied locally. It has been proved that there is a marked reaction in the tissues when applied locally. There is evidence that the use of these drugs in the peritoneum may cause adhesions.

Crutcher, Daniel and Billings concluded after fairly extensive experimentation on dogs that

1. Sulfonamide, sulfathiazole, and sulfadiazine may all produce adhesions in the peritoneal cavity of the dog under certain conditions. The adhesions may persist for long periods of time,

2. Masses of the drugs are apt to become

walled off as a foreign body and be absorbed very slowly,

3. Sulfadiazine produces much greater local reaction than sulfanilamide or sulfathiazole,
4. The absorption of sulfadiazine from the peritoneal cavity occurs more slowly than does absorption of sulfanilamide or sulfathiazole.

Careful screening of prospective surgical patients and avoiding unnecessary surgery will prevent some cases of postoperative adhesions. We have seen women who, for minor complaints such as dysmenorrhea and backache, have had a suspension of the "tilted womb," resections of simple cysts of the ovaries and appendectomy who still have dysmenorrhea and backache and who have come to subsequent surgery for relief of obstructive symptoms due to postoperative adhesions. Others who have had appendix or gallbladder out for vague digestive symptoms, who still have had the digestive symptoms, plus obstructive symptoms due to adhesions.

Dr. Gordon Dees (Jackson)—I hear my baby crying and arise to rock it. By this I mean that I arise in defense of "intra-peritoneal sulfanilamide."

Some of you may recall that I was one of the early users of this drug and published a paper, "Sulfanilamide, a Valuable Adjunct in Ruptured Appendices." This drug was then and is now regarded as an adjunct and not a replacement for good surgery.

In the John Gaston Hospital at Memphis, Tenn., before the use of sulfanilamide the mortality rate in these cases was upwards of 20 per cent, and since that time it has been less than 2 per cent. So, gentlemen, you can take your choice between a few adhesions or a higher mortality rate.

It has been my observation that never should over 10 gms. of sulfanilamide be placed in the peritoneal cavity, and this should not be supplemented by oral sulfa drugs. Penicillin parenterally used in combination with sulfanilamide in my hands has given excellent results.

Granting that there may be a few adhesions following sulfanilamide, there will not be as many as following the inflammatory reaction accompanying the purulent peritonitis.

Neurosyphilis Control Program in Mississippi*

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Introduction

In 1944 the State Legislature of Mississippi was confronted with the fact that there was an alarming number of Mississippians of draft age who were discovered during induction examinations, to have neurosyphilis. Eighteen hundred Mississippians were found in this classification. On the basis of another survey, at least an equivalent number suffering from neurosyphilis have been estimated to be present in the rest of the population of this state. Thus, nearly 4,000 individuals are known potential candidates for the State Hospital.

In terms of very cold and realistic economics the cost of treating these individuals in clinics and at the State Hospital would far exceed the cost of treating them with fever-chemotherapy.

Because of the magnitude of this problem, on March 31, 1944, an appropriation bill was passed by the legislature of Mississippi for the purpose "of defraying the expenses of a special department in the Mississippi State Hospital for the treatment of neurosyphilis or other diseases leading to insanity." The appropriation provided for $50,000 for the years beginning July 1, 1944, to June 30, 1946.

The program of treating patients with neurosyphilis at the State Fever Therapy Unit was put into operation on May 15, 1945, as a project of the Mississippi State Hospital in collaboration with the Mississippi State Board of Health and the U. S. Public Health Service. It has been organized for the purpose of treating asymptomatic and early symptomatic neurosyphilis and thereby preventing the serious manifestations which eventually might otherwise require commitment to an institution for the insane.

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*Read before the Section on Hygiene and Public Health at the seventy-eighth annual session of the Mississippi State Medical Association, May 14, 1946.

The form of treatment chosen by the State Board of Health and the Mississippi State Hospital was fever therapy combined with chemotherapy. Because of his broad experience in this field, Dr. H. Worley Kendall, formerly of the U. S. Public Health Service, was assigned to this state in order to organize such a department. The State Fever Therapy Unit is deeply indebted to Dr. Kendall for his skill and guidance in accomplishing this achievement.

In a program for the prevention of insanity, it is easier to obtain the coöperation of a patient if he does not consider that he is entering a mental institution. Because of this factor, among several others, after rather extensive examination of the various sites available, it was decided that the fever unit would be most suitably located at the Brookhaven Medical Center, a public health treatment center for venereal diseases.

Organization

The unit consists of a twenty-four-bed hospital with four six-bed wards to accomodate both white and colored, male and female. In direct connection with the patient wards are six fever treatment rooms equipped with Kettering hypertherm cabinets.

This hypertherm is a double-walled, insulated cabinet in which the patient lies on a soft, hair mattress supported by a box-like bed frame. The patient's head extends through an opening in the front panel and rests on a comfortable pillow. Large sliding doors on each side of the cabinet permit the nurse-technician and physician to observe the patient's body, administer parenteral medication and carry out the necessary examinations during treatment. The heating unit is housed underneath the patient and in no way can the patient come in contact with the heating mechanism. This eliminates any possible chance for the patient to be burned. Finally, a very sensitive rectal thermometer based on a thermocouple principle is used, enabling constant observation of the patient's temperature.

The mechanism of fever induction by the Kettering hypertherm depends primarily on heat transfer by conduction from the heated, humidified, circulating air. This factor, combined with the prevention of the normal rate of heat loss by radiation and evaporation, is responsible for the elevation of the body temperature and its maintenance at any desired level. Thus having the controls for the production of fever available at all times makes it possible to discontinue the treatment at a second's notice, if indicated. By this method, it is possible therefore, to administer fever safely at the desired level and for the designated length of time.

Referral of Patients

The techniques of administering fever and the routines of treatment were discussed at meetings for the county health officers held throughout the state early in the neurosyphilis program. It has been through the excellent coöperation of the county health officers and the medical officers of the Rapid Treatment Centers that the program has begun to flourish. For, the responsibility of referral of all patients is through these channels.

Patients are referred from the private physician or from public health clinics through the county health officer to the Public Health Treatment Center serving his county. There are three such centers, one in Meridian, one in Greenwood, and the third at Brookhaven. Here, the diagnostic survey is performed at the center in approximately three to five days and then the patient is returned to his home to await further notification. The clinical findings and laboratory results of the diagnostic survey are forwarded to the Medical Director of the State Fever Therapy Unit for medical evaluation. He, in turn, notifies the county health officer as to whether or not the patient is eligible for fever-chemotherapy. If eligible, an appointment date is arranged for admission to the State Fever Therapy Unit. For those patients residing in the area served by the Brookhaven Medical Center, the established transportation services are furnished by the center. Patients residing in areas served by the Public Health Treatment Centers at Meridian and Greenwood must use private or public transportation at their own expense.

Type of Patient Treated

Upon being assigned to Mississippi, Dr. Kendell was confronted with the problem of which patients should be considered for treatment. At the beginning, insofar as the unit was authorized on the basis of a preventive program rather than a curative one, only those patients with asymptomatic neurosyphilis having very strong positive spinal fluid were accepted for treatment.

In asymptomatic neurosyphilis the grading of spinal fluids according to the degree of involvement is a valuable guide to the treatment and prognosis of the disease. Let us review for a moment the general classification which is used in grading spinal fluids and the factors involved.

The spinal fluid is graded on the basis of cell count, protein, colloidal gold, and a serologic spinal fluid test. In this state, the Eagle Complement Fixation Test is employed, so graded that the strength of the reaction is indicated by the smallest amount of fluid which will give a positive test. In Grade I fluid, the complement fixation is negative, the protein is slightly elevated and the cell count is from five to twenty-five. The colloidal gold test may show a slight reaction in a few tubes. This is the mildest type of reaction.

In the Grade II or moderate group, the cerebrospinal fluid is positive when 1 cc. of fluid is used, but negative when .2 cc. or less is used. The protein and the cell count are usually more markedly elevated than in the first group. The colloidal gold test shows a greater deviation from normal with one or a few of the tubes giving a strongly positive reaction.

In Grade III, or the most severe group, the cerebrospinal fluid reaction is positive when .2 cc. or .1 cc. of fluid is used. The protein and the cell count are usually markedly elevated. The colloidal gold test shows a strong reaction.

The significance of this graduation lies in the prognosis and hazards associated with them. Stokes describes "the Grade III spinal fluid as the 'red flag.' It is like the rattle of the rattlesnake—the warning of something serious to come." This type of fluid is the earmark of parenchymatous neurosyphilis. It is an inescapable warning that only the most effective and intensified method of treatment will be of any avail in preventing the process from progressing in the nervous system. Thus, the selection of the Grade III asymptomatic patients was first made at the incipiency of this program on the basis of their imminent danger of developing insanity, paralysis, blindness or other serious complications.

In addition, since the inauguration of the program, patients with symptomatic neurosyphilis of moderately advanced degree have been accepted for treatment when there is room in the schedule. Thus, cases of tabes, early paresis and ocular syphilis, such as optic atrophy and interstitial keratitis have been treated.

Every patient admitted to the State Fever Therapy Unit is studied very carefully before he is considered a candidate for this type of treatment. The status of the disease which is to be treated as well as the status of his physical health is analysed. Particular attention is paid to the cardiovascular, respiratory and urinary systems. And severe destructive changes in these systems have been held as contraindications. Special studies are carried out relative to the disease. Thus, for example, active pulmonary tuberculosis, uncontrolled severe diabetes, acute or chronic nephritis, cardiovascular disease, severe anemia, as well as other conditions such as epilepsy, are contraindications to fever therapy.

Routine of Treatment Schedule

The treatment schedule consists of twelve three-hour sessions of fever at the level of 105.0° to 106.0° F. at intervals of one to two days. Combined with the fever treatment the patient receives clorarsen and bismuth. By maintaining a suitable level of these drugs at the time the patient is receiving fever therapy, the beneficial effect of the drugs is increased five to six times as compared to the drugs administered alone. Because of the recent encouraging preliminary reports that have appeared with regard to the use of penicillin in the treatment of late syphilis, the routine as described above has been augmented by giving one patient 6,000,000 units of penicillin, 25,000 units every three hours during the thirty-day course of fever-chemotherapy. The addition of this drug has markedly increased the therapeutic efficacy, but has in no way increased the danger.

No further specific treatment is indicated for these patients for a six months' period, at the end of which time they return for a recheck examination. If there is no indication of relapse, either clinical or serological, an additional six months' period of observation is permitted. To date, none of the fourteen patients who have been rechecked, has been found to need additional treatment.

For those patients who are not considered eligible for fever-chemotherapy an alternative treatment schedule has been developed at the rapid treatment centers. Such patients consist of the asymptomatic group who are found to have Grade I or II cerebrospinal fluid or in the symptomatic group, those who have been surveyed and are believed to be poor medical risks. The routine which has been utilized for these groups consists of giving 4,800,000 units of penicillin in an eighteen-day period, 33,333 units every three hours for 144 doses. It will be interesting for comparative study at a later date to review the results of these two groups, the one with fever, the other without.

On the basis of previous studies employing fever-chemotherapy, the following results may be anticipated in the different types of neurosyphilis. Approximately 48 per cent of the patients suffering from paresis show marked improvement. In tabes dorsalis, 27 per cent; meningovascular, 55 per cent; vascular, 38 per cent; optic atrophy, 13 per cent. In meningeal neurosyphilis approximately 84 per cent of the patients show marked improvement. The high percentage of improvement in this last group may be attributed to the occurrence of this manifestation early in the course of the disease. In asymptomatic neurosyphilis there is a reversal of the spinal fluid in 84 per cent of the cases in Group I; 63 per cent of the cases in Group II; and 45 per cent of the cases in Group III. However, it is extremely important to note even though reversal is not always accomplished, that over 90 per cent in this group will not develop symptoms. On the basis of such results, we believe that fever-chemotherapy is one of the most efficacious weapons today in the treatment of neurosyphilis.

Conclusion

Thus in conclusion, the prognosis in a patient who is asymptomatic at the time he receives fever-chemotherapy is excellent. With progressive deterioration and degenerative changes developing, less remarkable results are obtainable.

In the last five years there has been a remarkable impetus throughout the nation to reduce and control the syphilis problem. The State Fever Therapy Unit is one facet of several attacks of the V. D. Control Program.

Through the excellent coöperation of the medical officers at the Rapid Treatment Centers and the county health officers throughout the state, a good start has been made in the direction of materially reducing the neurosyphilis problem in the state of Mississippi. We are hopeful in the years ahead the program will grow in scope. Now with a fever therapy hospital, it is possible to return a man to his community and family as an active citizen at even a smaller cost to the state than it costs to commit him to a state institution to become a social parasite and outcast and await the inevitable degeneration and death.

DISCUSSION

DR. A. L. GRAY (Jackson)—When a physician or public clinic accepts a suspected case of syphilis for care, there goes with this acceptance a very grave duty of much concern to the patient in question and the community of which he is a part. This duty or obligation accepted by the physician or clinic should be considered in four phases as follows:

1. To clarify the exact diagnosis as to whether the person has syphilis and if so in what stage does the disease exist. This obligation infers the necessity for using the most modern procedure in diagnosis. Beginning treatment without this clearly defined diagnosis approaches malpractice and should disturb the conscience of the physician or clinic worker.
2. If the diagnosis is infectious syphilis, the physician or clinic then has a very serious but often overlooked responsibility of answering two very important questions and acting accordingly for the protection of the public health. They are:
   (a) From whom did this case acquire the infection?
   (b) To whom has this case transmitted the infection?
   The answers to these two questions are of paramount importance to the public. Failure to try to answer these two questions is also failure to live up to professional standards held high by the profession.
3. Now that the case is diagnosed the physician or clinic has no right to begin treatment unless there is reasonable assurance that adequate acceptable treatment can be given. A few treatments do no more than create a false sense of security and give the spirochete a chance to organize its forces.
4. When adequate treatment according to present accepted standards has been completed, there is still the problem of determining whether the treatment given has done the work. This can only be done by blood serology and spinal fluid examination. Many patients are now suffering from late neurosyphilis because the physician or clinic failed in the duty of following the blood and spinal fluid after supposedly adequate treatment. Failure to do this together with failure

to convince patient of the absolute necessity of adequate treatment is leading hundreds of patients to central nervous system deterioration, insanity and chronic invalidism.

There is no good excuse for so many neurosyphilitics at present except that physicians and clinics have failed to use the present knowledge and other resources to the advantage of the patient. In this failure we are contributing daily to the case load in the insane hospitals.

After failure with modern routine treatment, some cases will progress to central nervous system syphilis. There are several thousand Mississippians already with asymptomatic or early symptomatic neurosyphilis because of inadequacies of treatment. These can all be helped tremendously by fever therapy and in most cases the progress of the disease can be definitely and permanently stopped.

Do we not owe it to our profession and still much more to the patients themselves to be sure of our diagnosis first, to treat only adequately by accepted standards, to release the patients only after complete final follow-up by accepted standards show that they are no longer in danger, and to handle the neurosyphilis patient in such way that still another Whitfield will not have to be built to accomodate these patients?

I commend the presentation of Dr. Tobis to you and him for his able preparation and delivery on this most important subject.

DR. W. G. HOLLISTER (Jackson)—First, I should like to commend Dr. Tobis on an excellent presentation. I hope many more Mississippians will become aware that it is now possible to return the neurosyphilis patient to his job and family with the expenditure of only 25 per cent of the sum it formerly cost to keep them custodially until they died. I hope the legislature will learn from this example that treatment, even the best treatment, is much cheaper than custodial care and allow Dr. Mitchell at Whitfield to expand more of his treatment programs.

Every Mississippian should be proud of the State Fever Therapy Unit of the Mississippi State Hospital. It is an example of first-class modern medicine and would be well worth a visit by every doctor in this meeting.

By special agreement with both Dr. Haynie and Dr. Tobis. I should like to expand upon a point mentioned by Dr. Gray in his discussion. The prime problem in Mississippi in control of the venereal diseases and their manifestations, such as the neurosyphilitics just discussed, is to discover the cases. As Dr. Gray said, "Almost every case of neurosyphilis represents an uncovered or neglected case of early syphilis." The bitter fact is that despite all our fine treatments and advances with penicillin, we are finding for these treatments only one-third of the people infected with syphilis. Yes, according to the rates of incidence in the population determined by sample surveys, as the Selective Service Examinations, we are only finding (public, and private cases together) one-third of those infected.

Right along the line of finding these cases to treat, is an investigation that has been conducted during the last three months by special permission of the Council of the State Medical Association. We have been investigating a system of interviewing the patients of a private physician for their sex contacts that meets the three main prerequisites set up by physicians themselves: One, it takes up none of the doctor's time; two, it involves neither the patient's nor doctor's name and, third, it does not bring a third person into the doctor-patient relationship. This system depends on a self-interview form that is filled out by the patient. The doctor merely hands the form to a freshly diagnosed case of venereal disease and says "Fill it out and mail it if you think it is important." This takes none of the doctor's time, does not embarrass the patient by personal questioning and puts any coöperation entirely upon the education and good will built in the patient by what he reads in the form. The form carries its own educational message, a place to record sex contacts, and folds into an envelope which is mailed to a central secretary in Jackson, who cannot possibly know the patient as no signature is required. This central secretary mails out notices to the contacts named to report to their own private physicians for examination for their own protection.

At this time, I would like to make a preliminary report of the results of this study to date. In the area investigated 50 per cent of the physicians actually used the form. Forty-four self-interview forms were received through the mail from patients of these doctors. These forty-four patients named eighty-one contacts, 1.84 per cent contacts per case, and all outside the family. Even our so-called white collar practice have their extra-familial contacts.

On the last twenty-eight of these contacts we have sent out a "Notice of Exposure" to the contact requesting a "Coöperation Notice" be returned detailing the results of the examination. Twenty-five per cent have voluntarily returned a coöperation notice so far, of which four were found infected and three non-infected. The other contacts were brought in by follow-up visitations. On the basis of these preliminary results in a small trial, it appears that, if this system were extended to the entire state, about 18,926 additional contacts would be brought to examination, of which some 9,463 would be found infected.

These preliminary results indicate that the system is practical, meets the patient-doctor relationship requirements and deserves further study and expansion as a new technique in case finding for the private practitioner.

Some Facts about Allergy that Should Be Known*

GEORGE W. OWEN, M.D.
Jackson, Miss.

Inspiration for these remarks came from a paper read by Dr. J. Harvey Black of Dallas, Texas, at a meeting of the State Medical Association of Texas in Fort Worth in April, 1944. Dr. Black has been kind enough to permit very liberal use of his paper in preparing the message contained herein. I am very grateful to him.

AT THE present time, the term "allergy" is frequently used. It is seen and heard by the layman as well as the medical profession. Working for a period of years in the field of allergy has permitted the accumulation of certain bits of knowledge which I thought might be passed on to you, and which might prove of some aid to you in diagnosis and treatment. It is not our intention to become involved in a technical discussion of the mechanism which produces the various allergic manifestations. What I have to say is chiefly personal impressions and observations gleaned over a period of years.

1. The allergic manifestation usually develops early in life. Once established, one or another of the various allergic conditions may, and frequently do, persist into old age. They seldom develop in old age. True allergic asthma may develop late in life, when no previous allergy has been present, but if an individual develops dyspnoea past the age of fifty years, let your first consideration be cardiac disease. The percentage of those developing true allergic asthma past the age of fifty is small. Cardiac disease past the age of fifty is common. So not infrequently one must convince himself thoroughly that this older patient really has allergic asthma. Remember, too, that the two conditions may be present in the same patient.

2. Parents tell me frequently that they have been told that the allergic manifestation in the child is a transient thing; not to worry about it; that the child will outgrow his allergy. Certainly there are some instances where allergy in the child does disappear spontaneously, but the percentage of such cases is small. More often, in my mind, the child is moved to some new environment and taken away from the precipitating allergen. Improvement in general health in a few instances probably may permit the child to develop sufficient natural resistance to overcome the allergic condition. These "spontaneous cures" however are so infrequent that it would be far better to advise the parent to do all he can in aiding the child to overcome the allergy.

3. One allergic manifestation may be present for a period of months, or years, then disappear entirely, only to be replaced by some other allergic manifestation. This is seen fairly often. We have all seen the allergic infant with infantile eczema, who develops asthma or hay fever, or both, about the age of five or six years. Adults in like manner will suffer with hay fever for years and then develop asthma. In some instances the hay fever symptoms entirely disappear with the onset of asthma. As a general rule, however, the hay fever will persist but not be so troublesome as before the asthma developed. Urticaria may be present for years, disappear, and the patient begin suffering with hay fever or eczema.

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*Read before the Section of Eye, Ear, Nose and Throat at the seventy-eighth annual session of the Mississippi State Medical Association, May 14, 1946.

4. All of us have seen or actually known of instances where an occasional individual becomes sensitive to some rare or unusual allergen. The cases who become sensitive to yellow jackets, or wasps, or mosquitoes are relatively rare. People usually become sensitive to those things that most often are found in their environment or in their diet. A personal estimate would be that in cases of perennial hayfever and asthma, we would find 80 per cent of them in this territory sensitive to ragweed. This simply means that they are exposed to large quantities of a potent allergen, such as ragweed, and consequently become sensitive to it. This explains why most food sensitive cases will prove more often to be sensitive to wheat, milk, or egg. We simply include more of these items in our diet, and consequently become sensitive to the food most often ingested. The group of allergens to which people become sensitive in any given territory, therefore, confines itself very well within that group of pollens, environmental factors and foods that the individual in that territory contacts most often. Please let me emphasize that positive skin reactions to foods should never constitute the basis for permanent removal of a food from the diet.

5. Should people living in Mississippi move to Arizona, New Mexico or Colorado to be relieved of their allergy? The question is frequently asked whether an individual shall move from one locality to another for relief.

If the dominant precipitating factor in any specific case is primarily pollens, he will be relieved for one to three years, or even longer, occasionally, if he moves to some section where he will get a change in the pollens indigenous to his environment. However he remains an allergic individual, and will usually become sensitive to the pollens present in his new environment.

If the dominant item to which the individual is sensitive is some common incidental factor such as dust, he will have just as much difficulty after his move as before his move. If the dominant allergen is some common item of food, and he continues to eat that food in the new location, he will obviously continue to have symptoms.

There are two complications of asthma which, to my mind can be benefited by moving to some arid section, such as Arizona or New Mexico. These are emphysema and bronchiectasis.

A warm, dry climate seems to be an aid to those suffering with chronic bronchitis and recurring respiratory infections. Asthmatics, therefore, who have chronic bronchitis, or who appear to have asthma only as the result of recurring respiratory infections may receive benefit by moving to a new, warm and arid section.

They still remain allergic, and more often are disappointed than elated by such moves. Dominant precipitating factors should be determined in every case before such moves are advised.

6. Some patients will try to explain some recent allergic manifestation on the basis of eating some food or contact with some new environmental factor. Let me remind you, however, that they will more often develop a sensitivity to some food or environmental factor to which they have been exposed for years. The experiences which you have had in more recent years with sulfonamides and penicillin readily indicate that the patient must have had some previous contact with sulfonamide or penicillin before he develops the sensitivity. They go through an incubation period from the time of the first contact, and then at some later date when the contact is again made the sensitivity becomes manifest.

7. Many patients attribute their allergic symptoms to changes of temperature, changes of weather, humidity, rain, etc. Certainly these nonspecific factors play a definite part in precipitating the allergic symptoms. These same nonspecific factors also affect the normal person, and probably in the same way they affect the allergic. Relatively, however, the allergic needs less change to produce symptoms, because his mucous membranes are already swollen from numerous other precipitating factors. If the allergic is controlling his pollen sensitivity; is avoiding the incidental factors to which he is sensitive, such as feathers, pyrethrum and dust; and is not eating offending foods, then, the weather and temperature changes will not produce much more difficulty in his case than the normal individual. There is little the patient can do about the temperature and the weather changes, but he can do a lot about controlling the factors to which he is sensitive.

8. Emotional disturbances and fatigue are also nonspecific precipitating factors which cannot be overlooked. These factors at times are so evident as to be looked upon as the sole cause for an attack of asthma or hay-

fever. They occupy much the same place as weather and temperature changes mentioned above. Naturally, any case who gets an excessive dose of some item to which he is sensitive will have symptoms. Given the normal exposure to inhalants and foods, he may have no symptoms, unless the nonspecific factors enter into the picture.

9. The incidence of asthma and pulmonary tuberculosis is difficult for me to estimate. Anything said regarding it will be purely a personal impression. I do not think I have ever seen but one or two cases of pulmonary tuberculosis and asthma in a child. I have seen it a few times in adults. At times the tuberculosis has antedated the asthma. At other times, it would appear that asthma has been present and then the patient developed tuberculosis. I formerly thought there was less tuberculosis in the asthmatic than the non-asthmatic. At present my impression is that there is more tuberculosis in the asthmatic than the non-asthmatic.

10. It is very seldom that patients are sensitive to only one item. Clinically, when a patient has shown his allergic manifestation for a very short time, we may find him sensitive to only one item and be able to give relief by avoidance of this item. If the allergic condition has been present for a number of years, then you will find the patient sensitive to many items. In other words, the longer the allergic manifestation has been present, the more things you will find to which he reacts. Multiple sensitivity is therefore the rule, and single sensitivity the exception.

11. A pollen-sensitive case seldom loses his sensitivity, unless he takes treatment over a period of one to three years with pollen extracts. A food-sensitive case seldom loses his sensitivity unless there is a prolonged abstinence from the offending food. One may avoid the offending food for a long period of time, lose his sensitivity to that particular food, and at the same time be developing a sensitivity to another food. It would appear that a period of months is required to develop a sensitivity to almost any food.

12. The proper interpretation of skin tests is the most dependable method we have of determining sensitivity, but at times it is no more dependable than the history and experience.

Three methods of skin testing are in common use: the scratch, intracutaneous, and the patch methods. Those of us working in the field of allergy realize fully that all methods are quite fallible. Scratch tests will fail to give positive reactions in those who are only slightly sensitive. Intracutaneous tests give many false positive reactions, as well as false negative. The intracutaneous method is dangerous and should be made only on those items which have failed to give a positive scratch reaction. In spite of all reasonable precautions, the intracutaneous method of testing will produce constitutional reactions if you do enough of them at any one time. One must constantly be on the alert, and individualize the plan of skin testing in any given case.

Some workers are using patch testing for foods, and are using the specific food, rather than the extract of the food. For the most part, however, patch testing is confined to the determination of sensitivity in contact dermatitis.

By way of final suggestion, may I mention the important role that I believe we may reasonably expect histamine to play in every field of medicine in a short time? The experimental work being done by some workers would indicate that the use of histamine will not be confined to the field of allergy. Indeed, it may prove that allergy is the least important where histamine may be used to advantage. This drug has the property of increasing the blood supply to the entire body, including the brain. Those experimenting with it are obtaining some startling results, which I do not believe as yet have been published. I would suggest that you watch the literature for publication of the use of this drug, particularly in cases where there is nerve involvement, and the experimenters suggest that it has a much wider application. It may prove that histamine will produce results more advantageous in many ways than the sulfonamides or penicillin.

I hope these few remarks may prove of some aid to you, even though you may not be particularly interested in the field of allergy.

DISCUSSION

Dr. P. S. Herring (Vicksburg) — We have heard from one of our pioneer allergists in this section of the country and he has covered the subject so well that there is very little left to be said.

However, I would like to call your attention to the fact that we all are realizing, namely, that allergy is occupying an increasingly important position in the field of internal medicine. It has now come to pass that it is almost impossible to practice medicine without some knowledge of the fundamentals of allergy.

As Doctor Owen told you, if a person is allergic he will probably always be allergic and moving to another part of the country will not cure him of his allergy. It will relieve him, however, of his worse contacts, but he will probably develop sensitivity to the contacts he will make in his new environment. It would be very helpful to all of us if we would acquaint ourselves with the usual contacts and common things that our patients become sensitive to whether they are inhalants in the atmosphere or environment, or the commonest foods in our diet. If we did this, I think we would be able to be of more aid to our patients and more credit to ourselves.

In closing I wish to compliment Doctor Owen on his excellent and timely paper on the subject of allergy.

Dr. Irwin W. Barrett (Clarksdale) — I am glad Dr. Owen does not expect a technical or scientific discussion of his paper. However, I can think of nothing about which FACTS are so badly wanted and needed. Indeed, there is much confusion and misunderstanding about the fundamental nature of allergy.

The popular subjects on the streets and over the radio are: Why doesn't Congress do something about John Lewis, the OPA and other important matters that could and should be attended to? While 14 million people of the U.S.A. are constantly demanding that the doctors of America do something about allergy. It is difficult to imagine that 10 per cent of the population of this country suffer from a disease so crippling and miserable with so little being done. The most serious thing about it is that one out of every ten affected is affected seriously. In other words, allergy handicaps 1,400,000 annually. It begins in infancy and remains throughout life, and hits hardest at the infant and growing child—tomorrow's citizen. It retards growth, impairs weight, prevents muscle development, bones and posture. These children are mentally alert, but often erratic to the point of behavior problems. Active allergy interferes with the full utilization of food, vitamins and minerals with a result of poor growth and development.

The man who treats allergy is, to a certain extent, on his own, partly due to the fact that the published literature is quite incomplete and because we have not had until now a national organization dedicated to the exclusive support of allergy.

These few FACTS point to the seriousness and widespread distribution of allergic diseases. It is one of the great CHALLENGES to the medical profession and the public as well.

Something can be done about it;

Something is being done about it.

There has been some advance in the knowledge of allergy over the past twenty-five years. Prolonged management of the youngsters along with various treatments provides some control of the disease, but much more knowledge is needed, knowledge that will PREVENT its development. During our recent struggle for life our leaders in science considered it necessary to harness atomic energy. You know what happened.

I am sure you will be interested to know that a group of our leading scientific medical men have announced the creation of the American Allergy Fund. And for the first time America has a national organization dedicated to the exclusive support of the study of allergy and the education of physicians and the public in this field.

The American Allergy Fund will be administered by outstanding and recognized medical men, qualified scientists and responsible lay leaders.

Board of Trustees are as follows:

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Doctor Owen mentioned the role that histamine may shortly play.

I am not sure just what Dr. Owen has in mind, but I have a letter here dated April 26, 1946, less than a month ago, signed by Dr. Karl D. Figley, Secretary American Academy of Allergy, Toledo, Ohio, and addressed "To All Members and Fellows of the American Academy of Allergy." (Excerpt follows):

"In 1945, reviews of the literature concerning Torantil and Hapamine were drawn up under the direction of Drs. Frank A. Simon of Louisville, Kentucky, and Theodore L. Squier of Milwaukee, Wisconsin.

"In view of the findings reported regarding these drugs, the Committee on Pharmaceuticals and Medicaments of the Academy, of which Dr. Robert Chobot of New York is chairman, became convinced of the worthlessness of these products. This committee has made a determined effort to have the advertising of these products withdrawn from the *Journal of Allergy*. Up to the present time, the committee has not been entirely successful in its efforts."

Plans for an Intensified Tuberculosis Case-Finding Program in Mississippi*

C. C. SMITH, M.D.
Jackson, Miss.

TUBERCULOSIS is one of Mississippi's outstanding public health and economic problems despite the fact that for years we have known its cause, its common modes of spread, and its cure in most all early cases and in an increasing number of advanced cases. If a new-born baby never became infected with the tubercle bacillus it could never under any circumstances have tuberculosis. Since for all practical purposes the bovine strain of tuberculosis has been eliminated, the only way for an individual to get the disease is from another person who has the disease in the infectious stage. It naturally follows that if all cases now existing were known and isolated through all contagious periods or until death, this disease would become extinct.

The first logical step in the control of this disease is to find the existing case. We have been finding tuberculosis, but unfortunately in most cases too late to prevent its spread, effect a cure, or rehabilitate the victim.

In the past we have been waiting for the patient to come to us with the classical symptoms of tuberculosis which usually means that the disease has progressed to an advanced stage. With only vague and indefinite symptoms, we usually think of tuberculosis last. Why not move it up on our list to a place more nearly in keeping with its importance as a cause of death?

Too often we have heard the usual symptoms enumerated by a relative of the deceased. Not infrequently several members of a family have died of tuberculosis before we get around to x-raying the grandmother or grandfather who have had "weak lungs,' "ashmie" or "bronchial trouble" for perhaps forty years. Occasionally we find a case belonging to a prominent family reported only after death, because of the stigma and imagined ostracism resulting from the admission that Sam Jones has tuberculosis.

All too often we have waited until we could rales or elicit other physical signs before thinking of tuberculosis as the cause of illness. Again, I emphasize the fact that the person with definite symptoms and with definite physical signs is usually an advanced stage. To date approximately 70 per cent of the cases discovered have reached an advanced stage.

The chest x-ray is the best single means of diagnosing pulmonary tuberculosis, especially in its early and readily curable stage. Until quite recently, however, the cost of x-ray examination has been prohibitive for mass use.

Now, following the development of photofluorographic equipment, making an inexpensive miniature film, which can be installed in a bus and carried to the people in remote communities (even when electrical current is not available), we have a service that can be offered on a mass basis without cost to the individual. We have learned that for screening purposes it is unnecessary to disrobe the subjects to be x-rayed. Thus we effect a saving in time, prevent confusion and eliminate embarrassment to the hyper-modest individual. These miniature films are intended only to screen the negative from the positive or suspicious chest. Additional study in including 14"x17" x-ray film, laboratory examination, bronchoscopy, bronchograms and history should be available before final diagnosis is made in most instances.

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*Read before the Section on Hygiene and Public Health at the seventy-eighth annual session of the Mississippi State Medical Association, May 14, 1946.

This follow-up study will fall to the lot of the private physician having x-ray and laboratory facilities, local health agencies, the State Hygienic Laboratory and the out-patient department of the State Sanatorium.

We sincerely hope that more of our private physicians will acquire and use diagnostic x-ray units. Most, and we plan that all of our full-time health departments will soon have x-ray equipment for the examination of known cases, suspects, contacts of known cases, and special groups such as teachers and food-handlers.

Through a grant from the Division of Tuberculosis Control of the United States Public Health Service and through contributions from the Mississippi Tuberculosis Association we now have in operation one 70 mm. mobile x-ray unit. One more such unit is on order, and we plan the purchase of two or three more similar units. With four or five of these units making from 300 to 500 exposures per working day, we hope to offer this x-ray service to every person in Mississippi fifteen years of age and over within the next two years.

The findings in communities where such mass surveys have been done are that 1.5 per cent or fifteen out of every 1,000 apparently healthy subjects examined (fifteen years of age and over) have significant chest disease. Roughly seventy per cent of those found to have pulmonary tuberculosis through such surveys are in the minimal stage, compared with the seventy per cent in the advanced stage found by the usual methods. Although the major emphasis of this program will be on finding the unsuspected cases of tuberculosis, other conditions such as malignancy, fungus infections, cystic lung, sarcoidosis, bronchiectasis and certain of the cardiac and aortic diseases will be noted.

Central office facilities have been provided in Jackson for processing, reading, and reporting on the miniature survey films and the standard films exposed in the various county health departments.

We are also planning to have in the near future a central register including all known cases of tuberculosis in the state with the current status of each case reported at six-month intervals.

No small part of our program is that of education of the general public regarding this needless disease. We want the public to become acutely aware of the potential danger in every cough, sneeze, or personal contact with every unexamined individual.

We especially want to shift the emphasis from the child to the adult, even to the grandmother and grandfather who have innocently succeeded in infecting their children, their grandchildren, and are now infecting their great-grandchildren.

We are interested in aiding financially some of our larger state institutions and the larger public and open staff, non-profit hospitals in obtaining and operating x-ray equipment for the routine examination of every admission and the periodic examination of all employees. Hospitals that have developed such programs are finding from 5 per cent to 20 per cent of all admissions have significant chest disease.

Why find more tuberculosis when we do not have facilities for the care of cases already known? Most of us who get tuberculosis get it from the unknown rather than the known case. Merely knowing who and where our cases are will be of tremendous value in preventing the spread of this disease to family, friends, and associates.

When we have intelligently evaluated our tuberculosis problem we will then be in a position to ask for sufficient funds for the isolation, treatment, and rehabilitation of these unfortunates and in the meantime we can protect the new generation from infection with the tubercle bacillus.

Our ultimate aim should be the complete eradication of tuberculosis as a public health problem and its elimination as an economic loss.

DISCUSSION

DR. MCILWAIN (Jackson) — Dr. Smith speaks for plans for an intensified tuberculosis case finding program and that is encouraging. Plans must be formulated before real progress can be made, and in his paper Dr. Smith tells us about the plans.

A few days ago I saw concrete evidence of some well laid plans. I saw the new photofluorographic truck unit. It was a source of great pride to see painted on the side of that truck the word "Mississippi." I had seen somewhat similar units with the word "Illinois," "Texas," or "California," painted on their sides, but it was good to see and know that this forward step was being taken by my own state.

The purpose of these routine chest surveys is the detection of active and especially communicable pulmonary diseases in apparently healthy persons. Other abnormal chest conditions will also be discovered, and their presence made known to the individuals' family physician. There will be some unusual cases seen, and perhaps, Dr. Smith and his men can only speculate as to the actual condition present. In those cases it would be well when a diagnosis is established that the central office be advised of the final diagnosis. I am sure they are interested in knowing about these cases.

The individuals who are included in these surveys, their physicians and local hospital administrators, may need explanation of the fact that routine surveys are not a substitute for regular or complete radiological examinations.

Dr. Smith states that it is unnecessary to have the individuals disrobe for the chest examination. Radiographs of good technical quality are essential in this as in all radiographic work. Dr. Smith will be chasing some wierd shadows in the radiographs made on these robed individuals. I think it would be better to take the extra time necessary to have the men strip to the waist, and to have paper gowns at the three cent extra cost for the women.

DR. RUDE (Jackson)—Mississippi has good reason to be proud of the record of its Public Health Division and the strides it has made in contributing to the health and welfare of its citizens not only in the tuberculosis program but in many other activities. When the rest of the phases of medical practice equal that of the department of Public Health the medical profession and the people of this state will have ample cause to be proud. It is heartening indeed to see the large photoroentgen units manned by their own power generators so that the most remote and needy people of the state can be reached and served.

For example, the tuberculin testing of cattle will eliminate most of the bovine tuberculosis and pasteurization of the milk will eliminate the rest except for the gap of human carriers who having tuberculosis may contaminate it. Thus, a survey of the handlers of milk throughout a given area is now a distinct possibility.

It has been emphasized that when one member of a family is found with tuberculosis that it is essential to have chest studies on the remainder of the family and close contacts. It was found at various institutions with which I have been associated that it is not uncommon for nurses or attendants on tuberculosis wards and even interns to contract the disease and it has been found necessary to radiograph the chest of such individuals on leaving such a service and twice a year for those who are in constant association with the disease.

One is impressed by the number of early causes of pulmonary tuberculosis picked up by the Health Department films as it is in this group that cures are obtained and great economy is gained both from the point of view of the patient and the state. It is an unending source of amazement to see the chest lesions collected by Dr. Smith. For example, from memory I can recall having seen cases not only of tuberculosis in all its stages, but pneumonia, atelectasis, bronchi-ectasis, fungus diseases, foreign bodies, cystic disease, cancer of the lung and many other conditions to say nothing of the many types of heart and vascular diseases and congenital anomalies. I am sorry that slides of these conditions have not returned from processing in New York. I cannot help but digress for a moment to appeal to everyone finding a positive case that comes to Dr. Smith to send in a brief statement about the history and physical findings as in time it would enable him to have an educational collection that would be of value to anyone wishing to study chest diseases.

It is my wish to examine the chest of every patient entering the hospital and it is hoped that some arrangement may be made whereby it will be possible.

The Mississippi Doctor

Published monthly at Booneville, Mississippi.
Entered as second-class matter, January 19, 1926. at the post office at Booneville, Miss., under the Act of March 3, 1870. Annual subscription $1.00.

The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

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Address all material for publication to W. H Anderson, M.D., Booneville, Mississippi.

Our state meeting this year is to be held at the Buena Vista Hotel at Biloxi. This is the first time the Association has been to the Coast for several years. A good program has been prepared for all the sections. The pediatricians are having a meeting on May 5, the day before the regular meeting. The regular meeting holds May 6, 7, and 8. Our state meeting is very important. It is the cornerstone of organized medicine. The scientific papers are good, the informatiion gained at the meeting is most important, but we have much in addition to this that is important. The fellowship at the meetings gives inspiration and renewed fortitude to carry on for the coming year. Medical policies are determined at these meetings. Measures that mean a better application of known medical truths are discussed and decided upon.

Mississippi is in the beginning of a new era in medicine. A hospital system is on the way that may set the pace for the rest of the country. A four-year medical school is in the making. At the state association is a good place to get these ideas crystallized. The best is none too good for our state. Since our state is being looked to as a leader we should know our course and watch our step, but at the same time have the vision to see the present and the future needs and the courage to go forward.

Medical loyalty is largely measured by our devotion to our state medical association. The war is over and it is good that we come together, the young men from the battle fields and the veterans who have held the lines in civil practice. Let us mingle together and gain knowledge and acquire medical wisdom in so doing. Make your plans to attend the state meeting at Biloxi May 6, 7, 8. Dr. H. K. Avent is the able and affable president of the Association, Dr. Paul Gamble is the incoming president, while Dr. T. M. Dye is the veteran and efficient secretary.

The chairmen of sections have good programs for you. These chairmen are: **Medicine,** Dr. L. J. Clark, Vicksburg; **Surgery,** Lawrence W. Long, Jackson; **Public Health,** H. C. Ricks, Jackson; **Eye, Ear, Nose and Throat,** H. B. Rouse, Gulfport.

§

The one hundred twelfth annual meeting of the Tennessee State Medical Association convened at the Peabody Hotel April 8, 9, 10. More than four hundred doctors were in attendance.

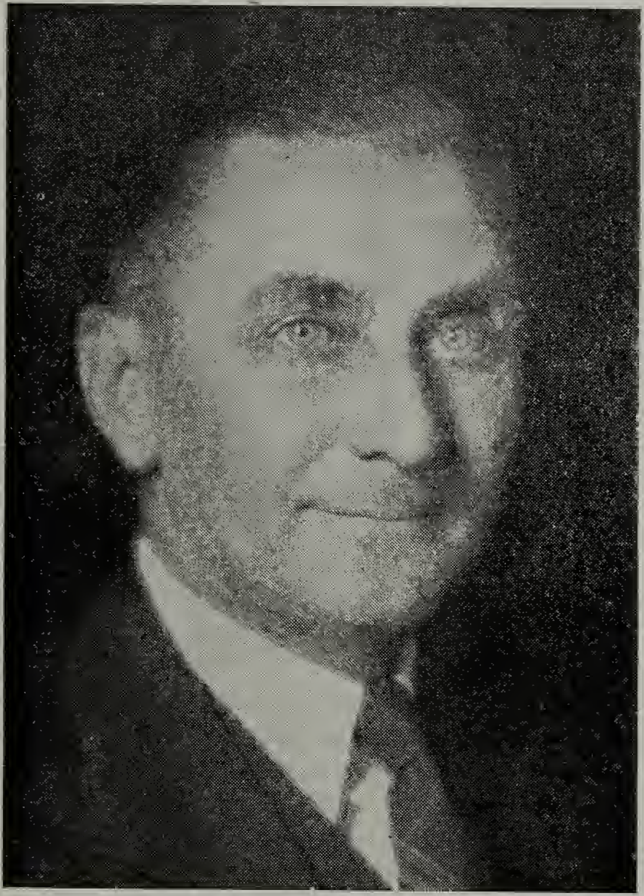
Dr. C. M. Hamilton of Nashville presided as president of the association. Dr. Franklin B. Bogart was president-elect, with Dr. W. M. Hardy of Nashville as the secretary-editor of the association.

Forty-six deceased members were listed for 1946 and twenty for 1947. The association listed twenty-two past presidents, among them Drs. S. R. Miller of Knoxville, William Britt Burns of Memphis, E. C. Ellett of Memphis, and Jere L. Crook of Jackson, Tenn. These four are well-known in the mid-South and throughout the nation, men of fine medical integrity.

A distinguished guest-member was Dr. H. H. Shoulders of Nashville, president of the American Medical Association, to have been succeeded by Dr. Olin West also of Nashville, as president-elect, who resigned on account of illness a few days ago, to the genuine regret of his thousands of friends. Dr. Shoulders, versatile and fluent, stated that Tennessee is the mother of presidents of the American Medical Association, Dr. Shoulders being the sixth from that state.

News and Comment

TO HEAD MID-SOUTH



F. M. Acree, M.D.

The fifty-eighth annual session of the Mid-South Postgraduate Medical Assembly came back after a five-year recess for the duration. The annual session was held at the Peabody Hotel in Memphis as usual. The enrollment of doctors alone was 691, a record attendance.

The papers were good and the fraternal spirit was fine. Memphis is always a good host.

The following officers were elected for the coming year: president, Dr. J. C. Pennington, Nashville; president-elect, Dr. Frank Acree, Greenville, Miss.; secretary-treasurer, Dr. A. F. Cooper of Memphis, associate secretary-treasurer, Dr. Henry B. Gotten, Memphis; vice-presidents, Dr. E. C. Parker, Gulfport, Miss.; Dr. H. T. Smith, McGehee, Ark., and Dr. Max Lindsey, Spring City, Tenn.

ROSTER OF FELLOWS OF THE SOUTHEASTERN SURGICAL CONGRESS OF MISSISSIPPI

Dr. William H. Anderson, Booneville; Dr. George F. Archer, Greenville; Dr. Otis H. Beck, Greenville; Dr. E. E. Benoist, Natchez; Dr. Maxwell D. Berman, Jackson; Dr. J. A. K. Birchett, Jr., Vicksburg; Dr. T. H. Blake, Jackson; Dr. W. H. Brandon, Clarksdale; Dr. Eugene A. Bush, Laurel; Dr. R. Lee Clark, Jr.; Dr. John C. Culley, Oxford; Dr. J. P. Culpepper, Hattiesburg; Dr. John Darrington, Yazoo City; Dr. J. Gordon Dees, Jackson; Dr. J. W. D. Dicks, Natchez; Dr. Francis S. Dixon, Natchez.

Dr. M. Q. Ewing, Amory; Dr. R. J. Field, Centreville; Dr. S. E. Field, Centreville; Dr. Ped L. Fite, Columbus; Dr. M. L. Flynt, Meridian; Dr. Hugh Gamble, Greenville; Dr. A. E. Gordin, Jackson; Dr. Toxey E. Hall, Belzoni; Dr. W. W. Hall, Reno, Nevada; Dr. W. F. Hand, Jackson, Dr. A. C. Hewes, Gulfport; Dr. Donald T. Imrie, Vicksburg; Dr. J. H. Johnson, Jr., Jackson; Dr. R. D. Kirk, Jr., Tupelo; Dr. I. C. Knox, Vicksburg; Dr. J. W. Lipscomb, Jackson; Dr. Nathan B. Lewis, Vicksburg; Dr. Lawrence W. Long, Jackson; Dr. George H. Martin, Vicksburg; Dr. J. G. McKinnon, Vicksburg; Dr. M. H. McRae, Corinth; Dr. J. M. Moore, Vicksburg; Dr. W. H. Parsons, Vicksburg; Dr. V. B. Philpot, Holly Springs; Dr. H. L. Rush, Meridian; Dr. L. V. Rush, Meridian; Dr. Robert E. Shands, New Albany; Dr. M. Murph Snelling, Gulfport; Dr. A. Street, Vicksburg; Dr. G. M. Street, Vicksburg; Dr. W. H. Sutherland, Booneville; Dr. J. S. Ullman, Natchez; Dr. M. Brister Ware, Jackson; Dr. Frank E. Werkheiser, Jackson.

MEMBER CANCER BOARD

Dr. Felix J. Underwood was recently elected a member of the board of directors and the Medical and Scientific Committee of the American Cancer Society. The committee has the functions of establishing the policies of the Society in all fields except finance and research and of guiding the personnel of the central office in the implementation of these policies. Dr. Edwin P. Lehman of New York is president.

MEDICAL EXAMINATION NOTICE (1947)

The Mississippi State Board of Health will hold medical examinations on June 23 and 24 (Monday and Tuesday) in Jackson, Mississippi, at the Robert E. Lee Hotel.

Examinations may be taken on the first two years only, as well as on all four years of medicine; (or on the last two years for those who have passed the first two years before this Board).

For application blank and other information, write Dr. R. N. Whitfield, Assistant Secretary, State Board of Health, Jackson 113, Mississippi.

(By direction of Dr. Felix J. Underwood, Executive Officer).

HAVE YOU RESPONDED?

Are you one of the 360 doctors in the state who has failed to return a schedule in the current Study of Child Health Services?

Mississippi's record of 71 per cent speaks well for those physicians who have responded wholeheartedly to this vital request. The response of 893 practicing physicians is most gratifying. Their interest is laudable and deserves a more complete coöperation from their professional fellows!

The Academy Study will soon be terminated. If our state is to approach the nation-wide average the immediate coöperation of over one-third of our doctors must be forthcoming.

If you are among the 71 per cent who have responded, we extend our appreciation. If among the negative 29 per cent—we urge your full and immediate response!

HARVEY F. GARRISON, M.D.
State Chairman
American Academy of Pediatrics

E.E.N.T. MEETING

The Louisiana-Mississippi Ophthalmological and Otolaryngological Society will hold its annual meeting at the Buena Vista Hotel, Biloxi, Mississippi, on May 5, 1947. The following program will be presented:

8:30 a.m.—Registration.

9:00 a.m.—Call to order, President George Adkins.

Introductions and Presentations.

9: 30 a.m.—The Rhinoplastic Operation and the Restoration of Nasal Function; Dr. Samuel Fomon, New York City. Newer Trends in the Treatment of Ocular Diseases; Dr. Peter C. Kronfield, Chicago.

12:30 p.m.—Luncheon.

Executive Session.

2:30 p.m.—The J. Raymond Hume Memorial Address: Meniere's Disease; Dr. Henry L. Williams, Rochester, Minn. Allergic Problems Seen by the Ophthalmologist and Otolaryngologist; Dr. Ralph Bowen, Houston, Texas.

Social Hour.

ANNOUNCEMENTS

Dr. William T. Howard announces the removal of his offices from the Medical Arts Building to 1101 Madison Avenue, Memphis. Tennessee. Practice limited to orthopedic surgery.

Dr. James B. Stanford, Dr. James E. Wilson, and Dr. Charles M. King announce their association in the practice of ophthalmology, office suite 116, 899 Madison Avenue, Memphis, Tennessee.

PROGRAM
of the
MISSISSIPPI STATE PEDIATRIC SOCIETY

Buena Vista Hotel, Biloxi, Mississippi
May 5, 1947

3:00 p.m.—Orthopedic Problems of Early Childhood. Dr. T. H. Blake, Jackson, Mississippi.

Neurosurgical Conditions in Children. Dr. Nicholas Gotten, Memphis, Tennessee.

5:30 p.m.—Fellowship and Refreshment Hour.

6:30 p.m.—Banquet.

7:30 p.m.—The Treatment of Acute Nephritis in Children. Dr. James C. Hughes, Memphis, Tennessee.

PIKE MEDICAL SOCIETY

The Pike County Medical Society held its regular bi-monthly meeting on Thursday evening, April 3, in the Palm Room of the McColgan Hotel in McComb.

Following a fried chicken dinner Dr. Thomas Purser, Jr., president of the Pike County Medical Society, presided over a short business session. The attention of the group then centered on an excellent discussion accompanied by lantern slides on the subject of "Functional Disturbances of the Gastro-intestinal Tract," presented by Dr. Donovan C. Browne, assistant professor of clinical medicine of Tulane University Medical School, New Orleans, La. At the close of the address a round-table discussion was enjoyed by those present on various phases of the subject.

The following visitors and members were present: Dr. Donovan C. Browne of New Orleans, La.; Dr. M. B. Small of Kentwood, La.; Drs. G. W. Robertson, J. M. Smith and A. V. Beacham of Magnolia, Miss.; Dr. F. S. Herrin of Summit, Miss.; and Drs. W. C. Hart, B. J. Hewitt, T. L. Moore, Jr., W. F. Cotten, Thomas Purser, Sr., Thomas Purser, Jr., Robert H. Brumfield, S. Paul Klotz, and Frank L. Butler, of McComb, Miss.

Interpreting Medical Literature

STAFF OF REVIEW

Dermatology—James G. Thompson, Jackson
Otolaryngology—Charles R. Hume
Ophthalmology—Edley Jones, Vicksburg
Obstetrics and Gynecology—J. F. Lucas, Greenwood.
Orthopedics—Thomas H. Blake, Jackson.
Public Health—Felix J. Underwood, Jackson.
Pediatrics—Harvey F. Garrison, Jackson.
Radiology and Roentgenology—Karl O. Stingily, Meridian.
Pathology—R. M. Moore, Vicksburg, Miss.
Surgery—W. H. Parsons, Vicksburg.
Urology—Temple Ainsworth, Jackson.

OPHTHALMOLOGY

DACRYOCYSTORHINOSTOMY, William D. Gill, American Jour. of Oph., Vol. 30, No. 2, February, 1947, Page 198.

The author briefly but adequately reviews improvements in this surgical procedure since Toti first described his operation in 1909.

The usual technique is followed insofar as anesthesia, incision and dissection are concerned. The author's contribution is two-fold. First, he makes a point of having an adequate amount of nasal bone removed, insisting that at least 1 cm. diameter, either square or circular, be removed. Secondly, a small soft rubber catheter of proper size is drawn up into the exposed lacrimal sac by means of a mattress suture of 00 or 000 plain catgut, using a double-armed suture and bringing the needles out through the skin. By this means the catheter is pulled firmly into the lacrimal sac and the distal portion is carefully smoothed over it. The sac and distal end of the catheter are then inserted into the prepared nasal opening and anchored in place with additional sutures of 00 or 000 plain catgut. The incision is closed in the usual manner. The catgut sutures are absorbed in three to five days and the catheter is removed. Careful postoperative treatment is followed out using lacrimal probes as necessary and controlling granulation tissue with biting forceps and cauterants.

The author states that he has followed this procedure for the past fifteen years, always on adults, most of his cases ranging in age from forty to sixty years, and it has been entirely satisfactory.

OCULAR SURGERY: RANDOM OBSERVATIONS.—C. S. O'Brian, Arch. of Oph., Vol. 37, No. 1, January 1947, Page 1.

The author states that "no excuse exists for poor anesthesia." He prefers local anesthesia, using cocaine for instillation, but states "cocaine should not be instilled for more than ten or twelve minutes." He uses .5 per cent tetracaine hydrochloride (pontocain) preferably in glaucoma surgery. He uses retro-bulbar injections of 2 per cent procaine with 1:20,000 epinephrine.

His method of akinesia has been used for years and is described.

He uses epinephrine instillations to lessen hemorrhage, prepares the skin, lids and margins with one-half strength of tincture of iodine and uses homatropine and paredrine for mydriasis prior to cataract extraction.

He uses two intravenous injections of typhoid H antigen vaccine prior to surgery, believing that it lessens the probability of postoperative iridocyclitis. He emphasizes the value of corneo-scleral sutures, using a slightly modified Stallard suture; but also uses four additional corneo-scleral sutures at the close of the operation. He prefers a keratome-scissors incision to the usual Graefe knife incision, stating that it is almost impossible to make a poor incision in this manner, fixation need not be so secure and is easily regained, there is no prolapse of the iris and finally, the incision seems to heal more firmly. He prefers a peripheral iridotomy and intracapsular extraction. In doing an extracapsular extraction he prefers capsule forceps to the cystotome. Air is injected into the anterior chamber and 1 per cent physostigmine is instilled.

His discussions of operations for cataract and primary glaucoma, glaucoma and convergent strabismus are excellent.

For tumors of the orbit he prefers a wide lateral canthotomy, the incision extending into the conjunctival fornix above or below, in preference to the Kronlin approach.

This is an excellent paper and should be read in full by every ophthalmic surgeon.

PEDIATRICS

PFEIFFER BACILLUS MENINGITIS IN AN INFANT, CURED WITH COMBINED SULFONAMIDE-PENICILLIN TREATMENT—Bonaba, Jose and Negro, Ramon Carlos—Archivos de pediatria del Uruguay, 17:403 (July) 1946.

"The authors report the eleventh case of Pfeiffer bacillus meningitis in an infant, cured by combined sulfonamide-penicillin treatment, ten cases having been reported in the medical literature since 1944.

The case concerned an infant, aged eighteen months, with a noncontributory personal and family history. Three days before admission the infant started to cough, and fever and restlessness supervened the following day. Generalized convulsions occurred the day before admission.

Examination revealed a male mulatto infant, with a definite syndrome of respiratory difficulties. The temperature was 39° C. rectally. The infant was alert, though depressed. The skin was pale, the lips dry and fuliginous. Auscultation of the lungs revealed a small focus with fine subcrepitant rales in the right posterior axillary line. The pharynx was reddened, the tonsils were enlarged, and there was multiple enlargement of the lymph glands. Examination of the nervous system showed generalized hyperesthesia, exaggerated tendon reflexes, rigidity of the neck, and positive Kernig and Brudzinski signs. Lumbar puncture showed increased pressure, and the fluid was cloudy and colorless. Pandy's and Nonne's reactions were positive. Albumin amounted to 3.1 Gm. per liter, the chlorides to 700 mg. per cent, and the sugar concentration to 12 mg. per cent. There were 6,000 white cells per c.mm. with a differential count of 84 per cent polynuclear cells. Microscopically, scanty gram-negative bacilli with the morphologic and staining characteristic of Pfeiffer's bacilli were found. The blood count showed 9,000 leukocytes. Urinalysis and chest x-ray were negative. A diagnosis of suppurative Pfeiffer bacillus meningitis, associated with dystrophia, rickets, and otitis was made.

Combined sulfonamide-penicillin treatment was instituted. An initial dose of 30,000 units was given intraspinally at the time of the first lumbar puncture. On the following day, two intraspinal injections of 15,000 units each were given, and during the subsequent eleven days two injections of 30,000 units each were given daily, giving a total of 720,000 units intraspinally. In addition, 10,000 units were given intramuscularly every three hours for nineteen days, for a total of 1,520,000 units. An amount of spinal fluid equal to the fluid to be injected was removed each time, and tests showed the removed fluid contained not more than 2,500 units per cc.

Sulfadiazine was given orally, for twenty days in a daily dose of 0.4 Gm. per Kg. of body weight and for eight days in a daily dose of 0.2 Gm. per Kg. amounting to a total of 66 Gm. in twenty-eight days. There was no untoward reaction in this high dosage of sulfadiazine, apart from definite anemia which improved after termination of treatment.

Two days after beginning treatment, there were no more convulsions, although rigidity of the neck and the Brudzinski sign persisted. The ear drums were normal and nutrition was good. After thirteen days, there was no more fever, while the neurologic signs were still positive. There was infiltration of the eyelids and of the face. After fifteen days, rigidity of the neck and Brudzinski's sign disappeared while Kernig's sign was still positive. The patient gained weight and heart and lungs were normal. After twenty-five days the patient appeared cured, and after one month he was discharged. The spinal fluid cleared up microscopically after eleven days, and the cell count became normal during the third week, while no bacteria were demonstrated after the first two days. The temperature fell critically on the eighth day. The glucose content of the spinal fluid increased steadily and this can be considered of great prognostic significance; it reached normal values on the sixth day. The patient was seen repeatedly after discharge from the hospital and there was complete cure without any residual disturbances during an observation period of eight months."

COMMENT

The outline of treatment of Pfeiffer bacillus meningitis with combined sulfonamides and penicillin is one of the accepted methods of treatment at the present time. We can heartily endorse this paper as being worthwhile.

PUBLIC HEALTH

Some Problems in the Diagnosis of Chronic Brucellosis. Eisele, C. Wesley, M.D., F.A.C.P.—Medical Clinics of North America: January, 1947.

In recent years the attention of the practitioner has been directed frequently toward the problem of undulant fever, or brucellosis. The increased reporting of this disease in Mississippi has indicated to all public health workers that an active campaign must be waged against raw milk consumption by our people and Bang's disease in cattle if brucellosis is to be prevented.

Dr. Eisele has written a well-balanced article on the difficult problem of diagnosing chronic brucellosis. In acute brucellosis the clinical picture is usually suggestive enough to warrant a provisional diagnosis without the aid of the laboratory. Here the patient may have an insidious onset, or an acute onset following a pattern of chill, rigors, high fever particularly in the evening, which may be normal or subnormal in the morning, drenching night sweats, extreme prostration, occipital headache, intense backache, generalized muscle and joint pains, anorexia, weight loss, and abdominal pain. A blood test on such a patient a week or more following the onset will in the great majority of cases be positive for agglutination. Subsequent blood tests will usually show a rising titre.

In chronic brucellosis, diagnosis is far more difficult. There are no pathognomonic symptoms, and often no physical signs. Instead the physician is confronted with a great variety and diversity of manifestations, and frequently with equivocal laboratory tests. In view of this "some physicians are skeptical of the whole problem of chronic brucellosis and entertain doubts as to its widespread prevalence, while on the other hand the enthusiast diagnoses and treats as brucellosis every vague complainer that comes into his office."

Scores of symptoms have been listed by those reporting on chronic brucellosis. Eisele states the following features are most commonly encountered: "A multiplicity of obscure and shifting complaints is a distinguishing mark, and in this respect the resemblance to the psychoneuroses is conspicuous. If any one symptom can be said to occur with regularity, it is fatigue. Fatigue and weakness, although present at rest, are most troublesome when attempts are made to perform even a slight amount of work of the lightest sort. This everlasting weariness may be the only complaint, and one sometimes suspects a degree of malingering for the secondary gains. Many times the patient simply states that he just does not feel well and can offer no further explanation. Persistent low backache may be a most troublesome symptom, and no objective signs can be found to explain it. A succession of indefinite aches and pains in the muscles, joints, bones, and nerves may plague the sufferer. Low grade fever is present, often for months at a time, but again it may be absent for long periods while other symptoms persist. True chills are infrequent in the chronic phase of the illness, but chilly sensations even in warm weather are prevalent. Vague abdominal distress, the character of which usually suggests a functional origin, may at times become severe enough to simulate an acute surgical abdomen. Anorexia with its resultant weight loss is almost constant. Constipation is the rule, diarrhea almost never being a part of the picture. Symptoms referable to the nervous system and to the emotions are notorious. The patient is discouraged, defeated, and depressed. At times he is irritable, restless, and apprehensive, and he weeps at slight or no provocation. Insomnia may be habitual. Tremors, especially of the lips, may be present. Headaches may be most annoying and persistent."

Localized infections of **Brucella** may occur in conjunction with generalized illness or independently. **Brucella** have been recovered from lymph nodes, tonsils, sinuses, alveolar abscesses, bones, joints, bursae, the spleen, the liver, the gallbladder, the colon, pleural effusions, ovarian cysts, uterine discharges and prostatic fluid. Orchitis, mastitis, cystitis, nephritis, meningoencephalitis, uveitis, and a variety of cutaneous lesions have been attributed to **Brucella** infections. Ocular lesions may be caused by this organism. Osteomyelitis both with and without arthritis has been described in many bones.

In the majority of patients there are no physical signs of chronic brucellosis. The spleen may be enlarged in a few patients. Enlargement of the lymph nodes may occur more frequently. Abdominal tenderness may be present. Occasionally there may be signs indicative of localized infections. Other than these it may be said that chronic brucellosis is notable for its absence of physical signs.

A complete epidemiological history from the patient may be of considerable help in the evaluation of the case. The physician should inquire into the consumption of unpasteurized dairy products (raw milk, butter, cream, cheese, etc.). Questioning the patient as to his occupation and his contacts with all kinds of animals may give a history of treating an aborted cow, or handling lesions or slaughtering livestock. A history going back to childhood should be obtained. Information gained from such a history may give the physician much data that will confirm his suspicions of brucellosis.

There are several laboratory procedures that are very useful in helping the physician make his diagnosis of chronic brucellosis. The most diagnostic test for the disease is isolation of Brucella from the blood or tissues by cultural methods. Unfortunately this positive solution is seldom possible during the chronic phase of the infection. The agglutination test for **Brucella** is probably the most widely used diagnostic procedure. Proper interpretation of such tests must be made before arriving at a diagnosis. Several facts have been established in regard to the agglutination test and these must be understood. First, a not inconsiderable number of patients with proved brucellosis develop little or no response throughout the course of their illness. This is especially true of the chronic infections. A titre of 1:80 in the presence of characteristic symptoms should be regarded as presumptive evidence of brucellosis. Second, a positive agglutination test does not necessarily mean active infection. The patient may have developed agglutinins for **Brucella** without actually acquiring an infection. Third, in general, the higher the titre the greater is the likelihood that it is associated with active infection. Fourth, an agglutination test which is positive in a low titre early in the course of the disease and which becomes progressively higher in subsequent tests speaks strongly for active infection. Fifth, skin tests in which **Brucella** antigens were used may be responsible for the positive agglutination test. Sixth, a febrile condition may bring about a rise in titre of **Brucella** agglutinins developed in the past. Seventh, different laboratories using different **Brucella** antigens may give different results on the same serum. Eighth, following the standard two-dose cholera vaccination, such as employed by the Army and Navy, about 90 per cent of the individuals so treated develop **Brucella** agglutinins, often in titres as high as 1:320 or 1:640. In some individuals, titres persist for many months and possibly may reappear as an anamnestic response. Millions of veterans have been vaccinated for cholera during their military service, and one can expect that further confusion will thus be introduced into the clinical interpretation of this test. Ninth, agglutinins developed against tularemia infections will cross-agglutinate with **Brucella** antigens, but the titre does not become high and is considerably lower than that developed for **Pasteurella tularense.**

Another laboratory procedure in testing for brucellosis is the opsonocytophagic test, or opsonic index. The test is not widely used however, because the procedure requires a precise technic and because there is still controversy over the validity and interpretation of the test.

The intradermal skin test is a technic being widely adopted by many physicians especially in diagnosing chronic brucellosis. Spink calls the intradermal test "the most widely abused diagnostic procedure." The test may be performed by injecting intradermally suitable amounts either of nucleoprotein such as brucellergen, or of a bacterial vaccine. The test should be read at forty-eight hours. Erythema which often appears early but fades before forty-eight hours have elapsed should not be regarded as a positive reading, a mistake not infrequently made. Edema of at least 0.5 cm. diameter persisting at least forty-eight hours after the injection is the minimal requirement for a positive skin test. A positive reaction simply means exposure to **Brucella** protein either currently or in the recent or remote past.

General laboratory tests which may aid in the diagnosis of brucellosis are (1) blood counts, and (2) the erythrocyte sedimentation rate. A modern hypochromic anemia may occur in chronic brucellosis, but it is not characteristic and more often the hemoglobin and erythrocyte count remain quite normal. Leukopenia with a relative lymphocytosis is frequently observed in brucellosis, especially in the acute phase, but normal counts, or even moderate leukocytosis, occur somewhat more often. The erythrocyte sedimentation rate may remain normal throughout the course of brucellosis. This is one of the few severe infections in which normal sedimentation rates are observed, and such an occurrence should lead one to consider the possibility of this disease.

COMMENT:

Chronic brucellosis is a difficult disease to diagnose and this article points out the pitfalls a physician may encounter in arriving at the diagnosis. Dr. Eisele presents a very adequate discussion of the shortcomings of each test for brucellosis. With a variety of brucella antigens being put on the market it is obvious that there will be great variance in the results obtained by clinics and laboratories. Private laboratories are using commercially prepared antigens for rapid slide agglutination tests that have not been standardized. The reliability of these antigens becomes greatly reduced after their expiration date is passed.

Clinics are using in performance of skin tests a variety of antigens and toxic filtrates that have not been standardized and adequately evaluated by others than the proponents of that particular antigen or filtrate.

A thorough epidemiological history may be very helpful in making a diagnosis of brucellosis. A great deal of raw milk is consumed in Mississippi. Bang's disease of cows has been long prevalent in the state and seems to be on the increase with the advent of the cross-road auction barn. Many an aborted cow is sold as a fine milk cow to the farmer in the next county.

Almost all the cases of undulant fever reported in 1946 were contacted by a member of the Division of Preventable Disease Control in an effort to establish the probable sources of infection through an epidemiological history. The following figures, as yet incomplete, reveal these sources of infection as the most probable:

Raw milk and raw dairy products, 56.5%.

Raw milk and contact with infected cows, 37.5%

Contact with infected cows or discharges, 2.6%

Source unknown, 3.4%

With so large a proportion of our population rural and agricultural where commercially pasteurized milk is unavailable, and where the family cows are infrequently, or not at all, tested for Bang's disease, it is not surprising to find so much undulant fever occurring as the result of drinking raw milk and handling infected cows. In this series of cases it is most probable that the infection was acquired via the cutaneous route as a result of contact these individuals also drank raw milk and this factor could not be ruled out.

Relatively few of the undulant fever cases reported in 1946 in Mississippi were chronic cases. Roughly 25 per cent of the cases might have been termed chronic. The intradermal skin test was used in these chronic cases to help establish the diagnosis of brucellosis. The great majority of these cases were women whose chief complaint was chronic fatigue and headache.

Dr. Eisele fails to mention the possibility of spontaneous abortion in human beings as one of the symptoms of brucellosis. Some of the cases investigated this year gave histories of abortion. While no proof could be obtained that a **Brucella** infection was responsible for these abortions, the possibility appears to be there.

A. L GRAY M.D.

State Board of Health

Felix J. Underwood, M. D.

THE FIELD UNIT IN PUBLIC HEALTH

The field technical staff has served for the past fourteen years as a liaison group between the divisions of the Mississippi State Board of Health and the personnel in the full-time county health departments. Its main activities are those of technical supervision of the county health departments' programs.

The unit is composed of medical, nursing, sanitation, and clerical personnel who have had experience in county health departments and on the basis of such experience, together with special training in supervision, are qualified to render advisory service.

Functioning as a part of the division of county health work, this unit also acts as a service group for other divisions of the State Board of Health in carrying out detailed instruction as to policy and program.

The training of health department personnel requires considerable time. Such training has been carried out largely by individual members of the unit through routine visits to health departments where new workers have been assigned. The training has been in the nature of detailed supervision of the activities of these new workers while performing their routine duties. Members of the Field Unit have visited Lauderdale County frequently in recent months to assist in the training of health officers, nurses, sanitarians, and clerks.

The Field Unit has conducted factual surveys in a number of health departments in an endeavor to compile all pertinent information relative to the department into one volume. The history, organization, financial support and personnel were tabulated, details of the past program and accomplishments were recorded, the present program was outlined, and recommendations for additions and changes to the program were set out so that the counties might carry on a well-rounded program following policies advocated by the Mississippi State Board of Health.

Evaluation Schedules have been attributed to representative county health departments in the state so that detailed activities of these departments might be tabulated and reviewed. These schedules have served as a sample for determining the volume and quality of work performed by the health departments of the state. It was on the basis of these Evaluation Schedules that five counties were recently awarded plaques for meritorious service in the field of public health by the American Public Health Association. These counties are: Coahoma, Leflore, Washington, Lauderdale and Jones.

Members of the staff of the Field Unit have also rendered service in counties without full-time health departments. The outstanding service of this type has been in the fields of school and restaurant sanitation.

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SANITARY ENGINEERING

An entirely new activity in the field of sanitation has been in connection with the enforcement of the 1946 Law relating to Frozen Food Locker Plants. At the last meeting of the board, the Code of Interpretation of the law, prepared by the Division, was adopted by the Board. With its adoption, inspections of locker plants were started. To date, a total of seventy-three plants have been inspected. Written reports have been made to each plant manager indicating the defects of the plant and giving him information as to corrections needed. The first inspection of all plants in the state was completed at the end of October. A revisit to plants was then started for the purpose of reviewing the needs of each plant with the owner with the view of beginning a real program of improvements needed to bring each plant into compliance with the requirements of the law.

The first inspections revealed a great deficiency in many plants of adequate refrigeration equipment and properly built cold storage rooms to insure approved temperatures for the proper preservation of food. Also, many plants were badly designed or built to handle a much smaller volume of business than is being handled. It is realized, under existing conditions of material and equipment shortages, many improvements necessarily will be slow. Most of the plant owners have shown a coöperative attitude, and it is felt much improvement in plant facilities and methods of operation will be secured during the next year.

The DDT spraying program in the Delta section has progressed very satisfactorily. A total of 104,041 houses were sprayed during the first part of the season through June 30, and 73,037 resprayings were accomplished from July 1, to September 27, when operations were suspended for the season. This work appears to be having a very material effect on the reduction of malaria and intestinal infections such as diarrhea and enteritis in the areas included in the spraying program.

The greater part of the cost of this work has been paid from federal funds. Due to reductions in appropriations, insufficient federal funds will be available to carry on this work in 1947 on the same scale as has been done in 1946. It has been costing approximately $2.65 per house sprayed. The federal funds available for the coming season will amount to about $2.00 per house to cover the same area as has been included in the program. It has been decided to request the boards of supervisors of the various counties to appropriate fifty cents per house for needed spraying in each county; the State Board of Health to contribute fifteen cents per house from special funds provided for malaria control. This proposition was made to county boards at their August 1946, meeting. That this program has met with the approval of the people is indicated by the fact that fifteen of the sixteen counties made their appropriation for operation this spring.

Typhus control work has been continued in the four areas formerly in operation, and activities have been inaugurated in Hattiesburg and Forrest County, and in the city of Jackson. The division is continuing its coöperative rat-eradication work with the U. S. Fish and Wild Life Service and the State Plant Board. A statewide survey of typhus infection in the rat population is in progress in an effort to obtain more valuable epidemiological information concerning the human typhus problem. This information would be used to guide the Sanitary Engineering Division in its operational program directed at the prevention and control of typhus fever.

The addition of a well-trained milk sanitarian to the staff has made it possible to strengthen the milk supervision activities of the division. One engineer has been lost due to the transfer of one of the division engineers to the Division of Industrial Hygiene, which division has been without engineering services for some time. One sanitation supervisor was lost through a resignation.

The division has continued to promote water and sewerage improvement. There are now approximately eight million dollars' worth of municipal water and sewerage improvements either designed or under design in the state.

Woman's Auxiliary

REMEMBER

State Meeting: May 6, 7, 8, Buena Vista, Hotel, Biloxi, Mississippi.

National Meeting: June 9-13, Atlantic City, N. J. (For reservation, write Dr. Robert A. Bradley, 16 Central Pier, Atlantic City, N. J.)

CENTRAL MEDICAL AUXILIARY

Mrs. John B. Howell and Mrs. John B. Howell, Jr., of Canton, were co-hostesses to the Woman's Auxiliary to the Central Medical Society, March 11 in the lovely Howell home in Canton.

Mrs. W. F. Hand, president, presided over the business session at which time the following officers were elected for the coming year, as follows: Mrs. T. E. Wilson, president; Mrs. J. P. Wall, vice-president; Mrs. John B. Howell, Jr., secretary; Mrs. Harvey Garrison, Jr., treasurer; Mrs. T. W. Kemmerer, parliamentarian; and Mrs. F. A. Donaldson, historian. Mrs. J. Walton Lipscomb announced that April 29 had been designated as Doctor's Day and on that evening at 6 o'clock a party honoring the doctors will be given at the Colonial Country Club.

After the business meeting, the co-hostesses invited the members and guests into the dining room. The table was overlaid with an exquisite cloth and centered with an artistic arrangement of pink snapdragons and blue Duitch iris with tapers intermingled among the flowers. Mrs. Harvey F. Garrison served salads and Mrs. C. G. Bell and Mrs. A. P. Durfey presided at the handsome silver coffee service.

The following members and guests attended: Mrs. George E. Riley, Mrs. Walton Lipscomb. Mrs. W. L. Hughes, Mrs. Robin Harris, Mrs. Carter O'Ferrall, Mrs. Isaac Edwards, Mrs. N. R. Currie, Mrs. Aler Baines, Mrs. J. A. Chustz, Mrs. W. E. Noblin, Jr., Mrs. W. C. Thompson, Mrs. Ralph C. Bethea, Mrs. C. H. Denser, Mrs. L. W. Willey, Mrs. F. A. Ronaldson, Mrs. L. T. Carl, Mrs. George E. Twente. Mrs. James W. Caden, Mrs. T. E. Wilson, Mrs. T. H. Blake, Mrs. Harvey Garrison, Jr., Mrs. Harvey Garrison, Mrs. G. C. Verner, Mrs. Harvey Johnston, Jr., Mrs. J. Gordon Dees, Mrs. Thomas M. Dunn, Mrs. T. W. Kemmerer, Mrs. Felix Underwood, Mrs. C. B. Mitchell, Mrs. H. L. McCalip, Mrs. Gilbert Darrington, Mrs. W. F. Hand, Mrs. P. R. Greaves, Mrs Allen A. Lillienthal, Mrs. E. D. Kemp, Mrs. Ray Biggs, Mrs. A. J. McIlwain, Mrs. Joe C. Rude, Mrs. Guy R. Post, Mrs. Thomas G. Ross, Mrs. Frank Berry, Mrs. Luther R. Crull, Mrs. Walter Simmons, Mrs. Charles Ward, Mrs. H. C. Ricks, Mrs. R. A. Carlsley, Mrs. C. G. Bell, Mrs. A. P. Durfey, Mrs. M. C. McCalips, Mrs. William M. Dabney and Mrs. Raymond F. Grenfell.

THE TRI-COUNTY MEDICAL AUXILIARY

'Twas a lovely day, and seemed just right,
The skies were clear, and the sun shone bright,
And the birds were making a merry din,—
And the Tri-County Medical met at Co-Lin.
The doctors lunched in the Science Hall,
Where Mrs. Gill and her students fed them all.
To the ladies of the Medical Auxiliary,
Mrs. Miller said, "I want you to come lunch with me
And Mrs. Little, and we will be glad as can be
To greet you in Mrs. Prentiss Furr's lovely home,
And I'm sure every one will be so glad she has come."
So there's where they met, and the luncheon was fine
But instead of a lunch, we felt we had dined.
There was quality, and quantity, in all, we must say,
Carried with the motif of St. Patrick Day.
The lovely corsage for each person was seen,
To be St. Patrick's colors, the white and the green.
And we really think we truly can say,
Our meeting was indeed highly honored that day.
For the guests of the day, believe it if you will,
Was our lovely state president, Mrs. Stanley Hill,
Of Corinth, which is so far north you can see
It came very near being right in Tennessee.
The president-elect, Mrs. McIlwain, had come,
From way down in the south, Pascagoula's her home,

So you see there was lots of real happy greeting,
When the north and the south met here at the meeting.
Old members were there and some young ones besides,
Mrs. Crawford, our president, brought two brand new brides,
Serious illness kept one of our loved members at home.
All were sorry indeed Mrs. Arrington couldn't come.
Our Auxiliary's new president from Hazelhurst, Mrs. Blain,
Reminded us of Dr. Bryan's project again.
And I'm sure every one will be so glad she has come."
Some gift of appreciation was to be given Mrs. Furr,
For entertaining in her home, 'twas so sweet of her.
Then, as good byes were said, each went her way,
Thinking, "This is the end of a perfect day."
—Mrs. W. L. Little

The foregoing account in rhyme first appeared in the **Wesson Enterprise** reporting the meeting of March 11.

COAST COUNTIES AUXILIARY

The Coast Counties Medical Auxiliaries met together March 15 at a luncheon in the Edgewater Gulf Hotel to honor the state president, Mrs. Stanley Hill. It was a good meeting of congenial fellowship and a delightful menu. The U-shaped table which accomodated thirty guests was centered by a luxurious bowl of giant King Alfred daffodils and white stock, greenery and candles completing the centerpiece. Mesdames Joe P. Evans of Gulfport and B. B. O'Mara of Biloxi were in charge of the luncheon arrangements.

Mrs. R. C. Eley of Moss Point, the ninth district councilor, presided, and after giving a few words of welcome presented the presidents of the three auxiliaries who had come together to welcome Mrs. Hill; namely, Mrs. W. P. Sheely of Gulfport, Mrs. J. N. Lockard of Pascagoula, Mrs P. E. Werlein of Biloxi who was acting president in the absence of Mrs. F. J. Harrell.

Before introducing the guest speaker, Mrs. Stanley Hill, the state president-elect, Mrs. S. B. McIlwain, brought her greetings and in stating a few of her plans for the new year asked for the continuance of coöperation from the auxiliaries.

Mrs. Hill in her charming manner reviewed briefly the work as outlined in the A.M.A. legislative brangch which she attended last fall in Chicago, and also announced some of the highlights of the centennial jubilee convention of the A.M.A. which will be held in Atlantic City in June. The auxiliaries were encouraged to adopt as many worthwhile projects as possible. Mrs. Hill paid a beautiful tribute to Mrs. D. J. Williams, the first state president of the Mississippi State Auxiliary.

The group favored a joint meeting each year at a time convenient to the state president to attend.

Those attending the luncheon were: from Biloxi, Mesdames Riley Burney, J. J. Carter, Frank L. Fisher, J. A. Greaves, D. L. Hoilis, B. B. O'Mara, Forrest Mozingo, Joseph Kuljis, P. E. Werlein, George Wallace, B. Z. Welch, H. J. Schmidt, E. A. Trudeau; from Ocean Springs, Mrs. F. O. Schmidt; from Pascagoula, Mesdames S. B. McIlwain, J. N. Lockard; from Moss Point, Mesdames R. C. Eley and J. I. Thompson; from Gulfport, Mesdames W. A. Joseph, Joe P. Evans, H. Davidian, J. W. Green, A. C. Hewes, A. Hedmig, E. A. Melvin, C. A. Williams, E. C. Parker, H. K. Rouse, and W. P. Sheely.

WINONA DISTRICT AUXILIARY

The Woman's Auxiliary to the Winona District Medical Society met in Kosciusko Tuesday, April 9. Following a delicious luncheon served in the Rotary Hall to the doctors and their wives, the members of the auxiliary convened at the home of Mrs. Aaron Barnes for their meeting.

Mrs. Edgar Giles, newly elected president, opened the meeting with a poem, "The Three Lessons," and read the Club Collect for prayer. The business session consumed the early part of the program at which time it was voted to contribute $5.00 to the Preventorium Fund.

Mrs. Stanley Hill, state president, was the charming guest speaker, bringing a message on the objectives and goals for the coming year. Mrs. Willard Barnes of Kosciusko gave a paper, "Centennial of American Medicine," in the absence of Mrs. P. B. Brumby, of Lexington. A quiz, "What Is Your Medical I. Q.?" conducted by Mrs. W. G. Brock, of West, entertained the guests.

Concluding the meeting the hostess served coca colas.

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SCHOOL OF MEDICINE

The Mississippi Doctor

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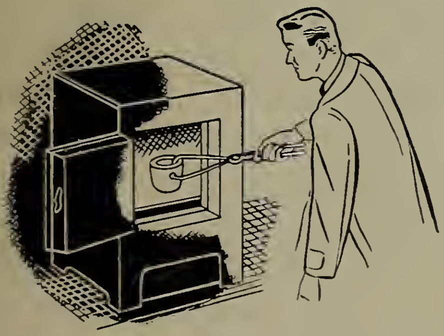
MEN'S ambition is generally proportioned to their capacity. Providence seldom sends anyone into the world with an inclination to attempt great things who has not abilities likewise to perform them.

—BEN JOHNSON



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BRIEF HISTORICAL NOTES ON MEAD'S CEREAL AND PABLUM

HAND in hand with pediatric progress, the introduction of Mead's Cereal in 1930 marked a new concept in the function of cereals in the child's dietary. For 150 years before that, since the days of "pap" and "panada," there had been no noteworthy improvement in the nutritive quality of cereals for infant feeding. Cereals were fed principally for their carbohydrate content.

The formula of Mead's Cereal was designed to supplement the baby's diet in minerals and vitamins, especially iron and B_1. How well it has succeeded in these functions may be seen from two examples:

(1) As little as one-sixth ounce of Mead's Cereal supplies over half of the iron and more than one-fifth of the vitamin B_1 minimum requirements of the 3-months-old bottle-fed baby. (2) One-half ounce of Mead's Cereal furnishes all of the iron and two-thirds of the vitamin B_1 minimum requirements of the 6-months-old breast-fed baby.

That the medical profession has recognized the importance of this contribution is indicated by the fact that cereal is now included in the baby's diet as early as the third or fourth month instead of at the sixth to twelfth month as was the custom only a decade or two ago.

In 1933 Mead Johnson & Company went a step further, improving the Mead's Cereal mixture by a special process of cooking, which rendered it easily tolerated by the infant and at the same time did away with the need for prolonged cereal cooking in the home. The result is Pablum, an original product which offers all of the nutritional qualities of Mead's Cereal, plus the convenience of thorough scientific cooking.

During the last ten years, these products have been used in a great deal of clinical investigation on various aspects of nutrition, which have been reported in the scientific literature.

Many physicians recognize the pioneer efforts on the part of Mead Johnson & Company by specifying Mead's Cereal and PABLUM.

Pablum is a palatable mixed cereal food, vitamin and mineral enriched, composed of wheatmeal (farina), oatmeal, cornmeal, wheat embryo, beef bone, brewers' yeast, alfalfa leaf, sodium chloride, and reduced iron.

The Diagnosis and Treatment of Brucellosis*†

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Unless Brucella are isolated from the body fluids or tissues of patients suspected of having brucellosis the physician is frequently faced with a clinical dilemma. If he makes a diagnosis of active brucellosis based upon circumstantial evidence, as many do, he is confronted with the bleak fact that there is no satisfactory therapeutic agent available for treating his patient. If he fails to recognize the disease, or demands precise bacteriologic data before he will offer such a diagnosis, his patient will pass from colleague to colleague, and frequently end up labelled as a neurasthenic or a psychoneurotic. There is no doubt that human brucellosis is a serious problem in some parts of the country; that the incidence of the disease is on the increase; that a correct diagnosis is attended with much difficulty; and that here is a decided need for an efficient therapeutic agent which will eradicate Brucella from the tissues. Recognizing the shortcomings of our present knowledge of many features of this disease, it is timely to review the available means for making a diagnosis and to survey some of the therapeutic measures in vogue.

DIAGNOSIS

Epidemiologic considerations. The diagnosis of many infectious diseases is often facilitated by a knowledge of the reservoir of the infection and the mode of transmission of the disease to human beings. And, incidentally, this information may suggest means for controlling the disease. The reservoir of human brucellosis resides in domestic animals, especially in cattle and hogs. Wherever the disease is prevalent in these animals, human brucellosis occurs. Unfortunately for man, the infection in cattle localizes in that organ which secretes milk. This means that the disease is transmitted to susceptible human beings by the ingestion of unpasteurized milk containing *Br. abortus.* Experience at the University of Minnesota Hospitals during the past ten years has shown that this is a common source of infection for many patients. Unfortunately for man, also, the pregnant cow has a localization of Brucella in the uterus. This is the most prevalent cause of abortion in cattle. The farmer or his aids not infrequently dispose of the expelled fetuses with bare hands. The carcasses are swarming with viable microbes and they enter the unprotected hands through abrasions in the skin. Following abortion, the cow sheds Brucella in the vaginal secretions which contaminate pasture, stables, and thereby the disease is transmitted to other susceptible cattle. Because of the nature of their professional activities, veterinarians have a high rate of exposure to the disease. As a result of chronic brucellosis, cattle may continue to abort and also become poor producers of milk. This is an economic loss to the farmer and such cattle are disposed of for beef. This means that another group of individuals is exposed to the infection, namely, employees in stockyards. Human beings contract brucellosis as a result of handling aborted material from hogs, in which case the invasive agent is *Br. suis.* Workers in stockyards also become victims of infection due to *Br. suis* following contact with the diseased tissues of hogs. There is some evidence that *Br. suis* may become established in cattle, and the dissemination of this species of Brucella through contaminated cow's milk has been reported[1,2,3]. The goat may also serve as a reservoir for the disease resulting in the transmission of *Br. melitensis* to human beings. This species of Brucella causes the most severe forms of human brucellosis, but, fortunately, human infections due to this source occur relatively infrequently. However, it is disturbing to learn that *Br. melitensis* has recently been isolated from the tissues of hogs[4]. Transmission of brucellosis from one human being to another must be extremely rare.

In summary, then, brucellosis is frequently an occupational disease involving farmers, veterinarians, and employees in stockyards. In addition, the disease is contracted by the ingestion of raw milk containing viable Brucella. These epidemiologic factors may be very helpful to the clinician in ascertaining whether individuals suspected of having brucellosis have been exposed to the disease.

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†Several of the investigations referred to in this report have been carried out with the aid of a grant from the United States Public Health Service.

Clinical features of brucellosis. It should be emphasized that brucellosis may exist in either the acute or chronic form of the disease. Recognition of this difference is significant with respect to prognosis and treatment. The acute stage may be so mild that termination of the illness may occur without the true nature of the disease being recognized. In describing a mild attack of acute brucellosis one of our patients succinctly, but accurately, stated, "It is like having influenza without a cold." Prominent features of the acute form are fever, chilliness, body aches and pains, headache, joint pain, and, in rare instances, a skin eruption. Not infrequently, respiratory signs and symptoms may be present including a nonproductive cough. In this case, the diagnosis of acute bronchitis is made. The only localizing manifestations, and these in a minority of the patients, are splenomegaly and lymphadenopathy. Patients having the acute form of the disease may have a rapid return to health after one to three weeks of illness without any sequelae. On the other hand, some of these individuals may have frequent relapses, or the acute stage may progress into a chronic state of ill health.

Chronic brucellosis is seen with and without localizing findings on physical examination. In general, patients in both groups have the following features: recurrent febrile episodes, weakness, anorexia, nervousness, headache, mental depression, easy fatiguability, sweats, and constipation. There are also manifestations of psychoneurotic patients, and, at times, it becomes extremely difficult to differentiate a state of psychoneurosis from chronic brucellosis. Both conditions may coexist in some patients. The differentiation is particularly difficult in individuals from whom doubtful laboratory data are obtained, and who have no localizing physical abnormalities. It is well, then, to call attention to some of the abnormal physical findings that have been seen at the University of Minnesota Hospitals.

The major complaint of the patients may involve the **eyes,** and examination has revealed the presence of uveitis or iritis. Brucellosis should always be considered in the interpretation of unexplained ocular pathology. Signs referrable to the **lungs** may be prominent, and **pleural effusions** have been encountered. Rarely, Brucella may localize upon the heart valves causing a **chronic vegetative endocarditis.** This complication has been observed in three patients with infections due to *Br. abortus.* The **spleen** has been enlarged and palpable in about one-third of the patients. Involvement of the **viliary tract** and **liver** has been seen. One remarkable case studied over a period of ten years finally revealed the presence of a pericholecystic abscess, and liver abscesses *Br. suis.* **Lymphadenopathy** has been noted in several cases. A prominent feature of chronic brucellosis may be pain over the spine, particularly in the lumbo-sacral region. In such patients, the presence of **spondylitis** may be detected following roentgenologic examination. Seven patients have been encountered with involvement of the spine due to Brucella. The roentgenologic picture has been one showing destruction of the intervertebral disc and the adjacent vertebral bodies. Evidence of a paravertebral abscess has also been detected. Osteomyelitis of the long bones has been observed on one occasion associated with an infection due to *Br. suis.* Not a single instance of rheumatoid or deforming **arthritis** attributable to brucellosis has been seen. The possibilities of such an association cannot be denied. Organic changes in the nervous system probably occur more frequently than is reflected in reports in the literature. **Peripheral neuritis** has been observed, and **meningitis** has been recorded[5,6]. **Encephalitis** is another serious complication of brucellosis. This was seen recently at the University of Minnesota Hospitals in a young ranchman from whom *Br. abortus* was isolated in the cerebrospinal fluid. Testicular involvement has never been recognized in cases of brucellosis at the University Hospitals, nor have cases of human **abortion** been traced to brucellosis as the cause. Briefly, then, these are some of the organic changes which have been observed in patients with chronic brucellosis, and the experience is continuing to be a definite aid in the diagnosis of doubtful cases of chronic brucellosis.

Laboratory data. Brucellosis is an infectious disease in which the laboratory is necessary in the establishment of a correct diagnosis. The total blood **leukocyte** count is usually normal or slightly reduced, and rarely is the count over 10,000 cells per cubic millimeter. In several instances, the possibility of brucellosis as a cause for a febrile state has been considered because of the presence of an absolute or relative lymphocytosis. Further experience with the **erythrocyte sedimentation rate** has revealed that suppurative infections can be differentiated from brucellosis in that patients with the latter disease may have a normal rate. A major diagnostic aid for screening cases of brucellosis is the **agglutination** of Brucella by human serum. The question is frequently asked, "What is a significant titer as far as active disease is concerned?" A dogmatic statement in answer to such an inquiry is not forthcoming, but, in general, patients are more likely to have active disease with a demonstrable bacteremia if the titer is 1 to 100 or above. On the other hand, a small number of patients may have active brucellosis with positive blood cultures and no agglutinins in the serum[7]. The **opsonocytophagic** test, or the quantitative **in vitro** measurement of the ability of leukocytes to phagocyte viable Brucella, has been looked upon with enthusiasm by some individuals[8,9]. After a thorough trial, this test has been abandoned at the University Hospitals because of its shortcomings in the doubtful cases. It is emphasized that with any patient seriously suspected of having active brucellosis careful **cultures** of venous blood should be carried out. An excellent medium for this purpose is Bacto tryptose phosphate broth. About 5 to 10 cubic centimeters of venous blood are added to 50 cubic centimeters of broth contained in a rubber stoppered bottle. As promptly as possible, 10 to 20 per cent of the air in the bottle is removed and replaced with carbon dioxide. Incubation of the contents is then carried out at 37 degrees C. for five days. By the end of this time the blood will have settled to the bottom of the flask, and a small amount of the material obtained with a pipette from the interphase of the blood and broth is placed on the surface of freshly prepared tryptose agar slants, and the inoculated tubes placed in a jar containing 10 to 20 per cent carbon dioxide. After forty-eight hours at 37 degrees C., typical colonies of Brucella are detected on the surface of the slants. When blood cultures are utilized as a routine for the diagnosis of brucellosis, it is no longer surprising to obtain positive cultures from ambulatory and afebrile patients.

Intradermal tests. It is a common practice to perform intradermal tests with Brucella antigen on patients suspected of having brucellosis. Antigens frequently used for this purpose include a suspension of heat-killed Brucella cells, and a neucleaprotein fraction developed by Huddleson and known as brucellergen. It should be emphasized that a positive reaction in itself does not mean the presence of active disease, but the majority of individuals with chronic brucellosis do have positive tests. Unfortunately, patients having chronic brucellosis with a bacteremia may have negative tests. One must exercise considerable caution in interpreting the vague symptomatology of brucellosis and a positive intradermal reaction as evidence of active brucellosis, even in the presence of a low titer of agglutinins.

Bone marrow aspiration. It is well recognized that the patients who engender considerable concern are those suspected of having chronic brucellosis, but from whom sterile blood cultures are obtained. In an attempt to resolve this problem, we have turned to other procedures as possible diagnostic aids. Brucella tend to localize in tissues having an abundant amount of reticulo-endothelial cells. This includes the bone marrow. Therefore, in coöperation with Dr. Dorothy Sundberg, aspiration of the sternal bone marrow has been carried out in patients known to have brucellosis, and those suspected of having the disease. A portion of the aspirated marrow has been cultured for Brucella, and particles of the marrow have been sectioned and stained, and then examined microscopically. It was hoped that the bone marrow would yield positive cultures for Brucella in the absence of negative blood cultures, which has only partly been realized. However, material from four patients has revealed the presence of the typical granulomatous lesions which are consistent with those described for brucellosis.

Biopsy of the liver. Brucella localize in the reticuloendothelial cells of the liver. With Dr. F. W. Hoffbauer and Dr. W. W. Walker, a simple biopsy technique has been employed for obtaining specimens of hepatic tissue from known and suspected cases of brucellosis. Stained sections have revealed the presence of the granuloma of brucellosis in five individuals.

In summary, then, in attempting to arrive at a correct diagnosis of brucellosis, it is essential to correlate epidemiologic data, the clinical picture, and information from the laboratory.

TREATMENT

The ultimate aim of specific therapy in brucellosis should be the complete eradication of the organisms from the tissues. With this object in mind, various chemotherapeutic agents and immune serum have been utilized in the treatment of human brucellosis. At the present time there is no satisfactory specific serum for brucellosis.

Sulfonamides. Coincident with the administration of adequate doses of sulfonamides, patients have recovered from brucellosis and have not had relapses. Working at the University of Minnesota Hospitals, Dr. Wendell H. Hall has carried out some extensive studies on the action of the sulfonamides on Brucella. He has found that all of the sulfonamides commonly used have an *in vitro* bacteriostatic effect upon freshly isolated strains of Brucella. Furthermore, utilizing the chick embryo technique, he has observed that the sulfonamides will protect the chick embryos against lethal doses of Brucella. The sulfonamides, particularly sulfanilamide, sulfathiazole, sulfadiazine and sulfamerazine, have been employed in the treatment of human cases having active brucellosis with positive blood cultures. Coincident with therapy, a majority of the patients have improved with·the establishment of an abacteremic state. It is our policy to utilize either sulfadiazine or sulfamerazine for three weeks with the patient kept under observation in the hospital. Blood levels of from 5 to 10 mgm. per 100 cc. are maintained. Unfortunately, some of the patients have relapsed, clinically and bacteriologically. However, some of the patients have been followed for as long as five years and there have been no relapses.

Antibiotics. Penicillin is of very little value in brucellosis because the strains of Brucella have been found to be highly resistant to those concentrations of penicillin which can be attained in the human body. Dr. Hall has studied a total of forty-five strains of *Br. abortus* and *Br. suis* isolated from human beings and all were resistant *in vitro* to penicillin.

Streptomycin is another antibiotic that has been made available for the treatment of brucellosis. There is no doubt that streptomycin is active *in vitro* against freshly isolated strains of Brucella. Also, chick embryos may be protected against lethal doses of Brucella with the drug. At the University Hospitals streptomycin has been utilized in the treatment of human cases of brucellosis and thus far the results have been disappointing. The object was to administer 3 to 5 gms. daily in divided doses for two weeks. Five of seven patients treated have had reactions as a result of the streptomycin so that therapy had to be discontinued before a period of two weeks. One patient who had subacute bacterial endocarditis due to *Br. abortus* received 118 grams over a period of thirty-one days. During the course of treatment he showed evidence of improvement, but at the conclusion of treatment he still had positive blood cultures and the strain of Brucella isolated from his blood after treatment proved to be highly resistant to the *in vitro* action of streptomycin. Two patients relapsed after treatment had been concluded and Brucella grown from cultures of venous blood. From these results and those obtained elsewhere it would appear that streptomycin is not too satisfactory a drug in the treatment of brucellosis.

Antigenic Brucella material. One of the features of chronic brucellosis is the presence of a state of marked hypersensitivity of the tissues of Brucella as measured by intradermal tests. This situation is analogous to that which occurs in patients with tuberculosis. Patients having active tuberculosis may have an exaggeration of their symptoms following an intradermal test with tuberculin. There is good evidence that patients with active tuberculosis will improve following treatment with tuberculin[10]. Unfortunately, treatment with tuberculin may precipitate a serious relapse with a spread of the disease, and for that reason treatment with tuberculin should not be widely adopted. Many individuals have reported good results in the treatment of chronic brucellosis by desensitizing the patients with antigenic preparations of Brucella. For this purpose, heat-killed bacterial cells have been used. Castaneda[11] has been used as an antigenic material prepared by grinding the living cells in a ball mill. The object in treatment has been to desensitize the individuals to these antigenic materials. There appears to be some logic in such an approach to the problem. In an attempt to evaluate this form of therapy a selected group of patients having chronic brucellosis is being treated at the University Hospitals with heat-killed bacterial cells. The object of treatment is to inject that amount of material subcutaneously which gives but a slight local reaction and no systemic reaction. As the patients tolerate the material the doses are increased with injections being given every five days. In common with others, it has been observed that it has been extremely difficult to desensitize some individuals and some of the patients have had violent local reactions after having received small amounts of material. No conclusions can be drawn from these efforts up to the present time, but the results appear to be encouraging enough to warrant further observations.

Huddleston[8] has advocated the use of a filtrate of cultures of Brucella known as brucellin for the treatment of patients, especially those who have had the disease for less than three months. It is stated that it is desirable to have a constitutional reaction to the injections of brucellin thereby provoking a satisfactory immune response. This form of therapy is undergoing investigation at present.

PREVENTION

The elimination of human brucellosis is dependent upon the eradication of the disease at its source, that is, in domestic animals. This is a gigantic task but not too formidable when one considers what has been accomplished with bovine tuberculosis. Since a sizable number of individuals acquire their infections following the ingestion of raw milk, more serious efforts should be devoted to advocating the pasteurization of all milk intended for human consumption.

SUMMARY

1. The reservoir of human brucellosis is in domestic animals, particularly cattle and hogs. Transmission of the disease to human beings is accomplished by the drinking of unpasteurized milk, and entry of Brucella through abraided skin as a result of handling infected and contaminated material.

2. Human brucellosis occurs in the acute and chronic forms, with and without evidence of localization. Recognition of these features are important in the prognosis and treatment of the disease.

3. The precise diagnosis of brucellosis is dependent upon laboratory data, particularly the isolation of Brucella in blood cultures.

4. The treatment of active brucellosis is in an unsatisfactory state. Treatment of bacteremic cases with sulfadiazine or sulfamerazine is warranted. Streptomycin has yielded disappointing results. The treatment of chronic brucellosis with brucella antigens warrants further investigation.

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FOR THOSE WHO KEEP GROWING

If we keep growing intellectually, spiritually and in loving service, then we can deal with the monotonies of life and have a thousand wellsprings of gladness springing up within the soul. One can sweep, and dust, and sew and mend; have ever busy hands but have the brow touching the stars. Then life is abundant and sweet.

Meniere's Syndrome: Differential Diagnosis and Treatment*

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THE NAME of Ménière has been generally associated with attacks of dizziness or vertigo since the description of his famous case in 1861[1]. The terms Ménière's disease Ménière's syndrome or symptom complex, and pseudo-Ménière's syndrome are all in common use at the present time. Any discussion of the subject of vertigo requires a definition of what is meant by these terms.

The name Ménière is associated only with that type of vertigo which produces a sense of motion either of the environment or the individual, usually of a rotational character but sometimes in a lateral or downward direction.

It does not apply to the sense of giddiness or dizziness which accompanies certain ocular disturbances or a loss of muscle and joint sense.

After Ménière's original description the term Ménière's disease was apparently applied to the apoplectic type of vertigo and deafness which occasionally occurred in a previously normal ear. A vascular accident in the labyrinth was considered to be the etiology. each. Many polyps are found while making a Gradually it became apparent that a vascular lesion could not explain the majority of cases of vertigo, deafness and tinnitus, and that undoubtedly several causes were to be considered. The term Ménière's syndrome or symptom complex therefore received general preference and continues in use as a term which embraces the occurrence of vertigo, deafness and tinnitus in the form of a single or repeated attacks. Suppurative labyrinthitis, acoustic tumors and traumatic injury were usually not included since the etiology in these cases could be definitely determined. Since the acoustic and vestibular portions of the eighth nerve separate upon entry into the brain stem the combination of auditory symptoms with vertigo is therefore indicative of a disease or lesion affecting the peripheral labyrinth or eighth nerve.

The term Ménière's disease has again come into common use in reference to one particular clinical group. This group is characterized by recurring vertigo in the form of attacks associated with deafness and tinnitus of a fluctuating type. The pathologic disturbance in this group has been found to be a hydrops or dropsy of the labyrinth (dilatation of the Ménière's disease therefore refers to one disease entity which gives rise to the general syndrome of Ménière.)

Vertigo is also a symptom of many types of disease of the central nervous system, arising from disturbances of the central vestibular nuclei and pathways. It is therefore a common symptom in disease involving the posterior cranial fossa and in such cases is usually not accompanied by deafness.

It is also possible that vertigo may arise from a disturbance of the vestibular apparatus in the ear with auditory symptoms. This occurs in the occasional case of labyrinthine dropsy. However, the auditory sense organ is more susceptible to injury than the vestibular receptor apparatus and it is probably only in rare instances that vertigo is produced by inner ear disease without also having some degrees of deafness or tinnitus or both.

In everyday experience the occurrence of vertigo in the form of an attack without auditory or other localizing nervous signs is found to be as common as the occurrence of the complete Ménière's syndrome. Such attacks are commonly referred to as "pseudo-Ménière's syndrome."

Pseudo-Meniere's Syndrome

Because of the absence of auditory symptoms vertigo of this type cannot be definitely localized to the peripheral vestibular mechanism. A true Ménière's disease (labyrinthine dropsy) has in the occasional case begun as a pseudo-Ménière's syndrome, the auditory symptoms appearing after a few weeks or months, but such cases are infrequent.

Vertigo without other localizing signs has been sometimes observed as the earliest sign of tumor, multiple sclerosis, or inflammatory disease in the posterior fossa and may be the predominant symptom of posttraumatic syndrome.

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In such cases the diagnosis is made possible by the history or the associated symptoms and signs which eventually appear but certain characteristics of the vertigo appear to be of significance in localization.

It has been found that when the central vestibular system is the site of the disease the vertigo in the majority of cases is either brought on or greatly influenced by changes in posture, and is therefore known as a "postural vertigo."

The postural character can be brought out in the history. Such patients quickly find that certain positions of the head or certain movements bring on the vertigo, while it may be avoided by keeping the head completely quiet or in certain positions. The vertigo which arises from the vestibular system is accompanied by nystagmus, therefore the routine test for postural vertigo and nystagmus is likely to be the most revealing part of the examination.

Attempts have been made to classify the types of positional nystagmus found on these routine tests and to localize the origin to the peripheral or central vestibular mechanism on that basis.

It appears that when the nystagmus can be reversed by changing the position of the patient the disease lies in the central apparatus. However, in cases where a reversal does not occur, but only a reduction or disappearance of the nystagmus, or possibly a slight variation in direction the sign may not be helpful in localization.

The tests for vestibular excitability are frequently of no value in pseudo-Ménière's syndrome, since they are most often normal, but may be symmetrically reduced or may give asymmetrical responses without giving reliable aid as to localization.

The vertigo in pseudo-Ménière's syndrome is of the postural type in the majority of cases, although in some it may be a constant vertigo during the initial severe stage, becoming postural as the symptom abates.

While such diseases as early labyrinthine dropsy, early tumor and multiple sclerosis must always be considered it is probable that the syndrome is due most frequently to other causes affecting the central vestibular apparatus.

These conditions which appear to explain the vertigo in the majority of these cases may be grouped as follows:

1. Cerebral arteriosclerosis and hypertension.

2. Toxic manifestation, either of a low-grade infection probably of the virus type in most instances, or of certain drugs such as alcohol, streptomycin.

3. Vasomotor insufficiency. Under this heading can be included the vertigo that is common at the onset of the menopause as well as the relatively common group in which a single or repeated attacks of postural vertigo seem to be related to an abnormally low or labile blood pressure and other vasomotor disturbances.

The prognosis for relief of the vertigo in such cases is always good and the matter of localization is fortunately not of grave importance.

The treatment consists of absolute rest, avoiding movement of the head, mild sedation, and treatment of the underlying etiologic factor.

Ménière's Syndrome

The term Ménière's syndrome is not customarily used when an etiologic diagnosis can be made, hence labyrinthitis, acoustic neurinoma, and traumatic injury are not included. However, in some instances the diagnosis of even these conditions may prevent difficulties. For example:

An attic cholesteatoma with a small perforation in Shrapnell's membrane may produce a labyrinthitis and yet escape detection by the unskilled observer. Or an acoustic neurinoma in the early stage may be confused with hydrops of the labyrinth. Repeated examinations will however demonstrate the absence of vestibular responses, the eventual involvement of other cranial nerves, and possibly dilatation of the internal auditory meatus on roentgenographic examination in the case of acoustic neurinoma or cerebellopontine angle tumor.

Trauma of the head, with or without fracture may result in concussion of the inner ear of one or both sides and the onset of profound loss of function, which comes on some hours after the injury. Recovery is usually incomplete and may require several weeks. It is known that in animals subjected to measured blows on the head free hemorrhage occurs into the tissues of the modiolus and to some extent in the fluid spaces of the inner ear, hence the disturbance of function may be related to hemorrhage.

Those conditions which are sometimes included under Ménière's syndrome in its present interpretation include the following:

1. **Labyrinthine fistula.** Cholesteatoma in the attic and aditus is the common cause, but the symptom is common in congenital syphilis which involves the ear, and may occur in rare cases of granuloma or tumor of the temporal bone. It can be detected by the production of vertigo and nystagmus on increasing and decreasing the air pressure in the external auditory meatus.

2. **Non-suppurative otitis media** is also a relatively rare cause for an attack of vertigo. The acute or subacute tubal blockage with exudative catarrh (middle ear completely filled with fluid) sometimes is associated with vertigo, which may be relieved by incision of the drum and removal of the fluid by tubal inflation.

3. **Toxic neuritis or neuro-labyrinthitis.** The cochlear apparatus is more sensitive to toxic processes than the vestibular sense organs, hence severe damage to the auditory mechanism may be produced with relatively little vertigo. The deafness which sometimes follows mumps is a classic example of a toxic neuritis. Fortunately it is nearly always unilateral. Vertigo may be present for a few days at the onset but vestibular function is not impaired. A similar toxic degenerative type of deafness may follow other acute infectious diseases. Deafness and vertigo may accompany a geniculate ganglionitis and may occur in a polyneuritis of infectious origin associated with parotitis and uveitis.

A number of drugs have been known to bring on tinnitus, impaired hearing and vertigo. Quinine, salicylates, tobacco in rare cases and streptomycin in large dosage are examples.

4. **Hemorrhage and Thrombosis.** Hemorrhage has been found in the fluid spaces of the inner ear in some cases of advanced leukemia. The original case reported by Ménière probably belongs to this group, since the death of his patient was otherwise not explained.

The sudden onset of severe tinnitus, deafness and vertigo in a previously normal ear, with resulting gradual recovery from vertigo but a profound and permanent impairment of hearing is occasionally seen in people of the fourth decade of life or later. Such a single episode, occurring without evidence of infection or demonstrable systemic illness, suggests some type of vascular lesion as the most probable explanation. Histopathologic proof is still lacking. Such attacks do not recur.. They may be of varying severity. In some cases there is profound deafness. In others the resulting deafness may be less profound, and in some of these the vertigo has been known to persist for several years when the patient assumed certain positions. Some cases are seen where vertigo does not occur, but deafness and tinnitus appear in the same sudden manner, and a permanent non-progressive high-tone deafness may occur.

It appears likely that these different degrees of impairment represent variations in the same type of inner ear pathology.

5. **Allergy.** The occurrence of deafness and vertigo has been observed along with an acute allergic reaction and may be recurring. The way in which the inner ear is affected is not definite. The question arises as to the relation of an allergic reaction to labyrinthine dropsy (idiopathic Ménière's disease) but on clinical observation there is little evidence to associate the two. The treatment consists in recognition of the allergen and elimination or desensitization.

6. **Labrinthine Dropsy** (Ménière's disease). The majority of cases of Ménière's syndrome fall into this group.

The clinical characteristics are recurring attacks of vertigo, associated with tinnitus and deafness.

The vertigo varies in severity and duration. The onset may be sudden or gradual, either without warning or preceded by steadily increasing deafness, tinnitus and a feeling of blockage of the ear. The attacks may be frequent or infrequent. They may occur several times weekly and disappear for months at a time without evident reason. There is excellent evidence that some patients with the disease may not get the vertigo, but have only the characteristic type of auditory disturbances. The hearing impairment associated with hydrops starts as a low-tone loss for both air and bone conduction. Fluctuation in the threshold occurs from week to week, sometimes as 35 DB variation within a day or two. The disease appears usually in the fifth decade, but may appear earlier or later. In about half the occurrence of hydrops with vertigo and low-tone deafness is preceded by bilateral high-tone progressive deafness. In younger people however the disease appears without pre-existing high-tone deafness. The hearing loss tends to be progressive, and in more advanced stages high-tone thresholds are reduced along with those for low tones. The deafness may become profound within a few years or may decrease more slowly. Noises are troublesome, and are usually a low-pitched roaring type, varying with the deafness. An intermittent diplacusis or an unpleasant disturbance of pitch perception is common. Bone conduction is reduced along with air conduction and fluctuates with it. The Rinne test remains positive.

The condition is unilateral in the majority but bilateral in from 10 to 15 per cent.

The tests for vestibular function are usually about normal in early stages but a gradual decrease in caloric response is usually found in advanced stages. The response may also be greatly reduced at one testing and normal at a later examination.

A postural effect on the vertigo may occur and when present consists usually in an increase in vertigo and nystagmus in certain positions. The direction of the nystagmus varies little however in contradistinction to most cases of pseudo-Ménière's syndrome.

The pathologic condition in the inner ear consists in a dilatation of the endolymphatic fluid system. The dilatation is irregular because of the variations in thickness of the membraneous walls, and varies somewhat from case to case. The sensory organs which are located within the endo-lymphatic system are affected. by the physical distortion of the structures, probably also by pressure changes, and in late stages some degenerative changes are found in the neural apparatus. The etiology and pathogenesis remain obscure as yet. However, the most likely explanation is that the increase in quality of endolymph is due to some disturbance of the secretory mechanism. No sikn of inflammatory reaction is evident, no cellular infiltration, and no change in the staining characteristics of the fluid.

The tendency for Ménière's disease to be associated with headaches, and in younger age period with low blood pressure and gastrointestinal complaints suggests a vasomotor disturbance in the ear as a causative factor.

Treatment

1. Medical. The medical treatment which seems to give best results is indicated toward maintaining an even fluid balance and preventing temporary increases in the amount of endolymph. Such measures as restriction of fluid, salt-free or sodium-free diet and the use of mild diuretics appear to be indicated.

The sodium-free diet recommended by Furstenburg, Lashmet and Lathrop, accompanied by ammonium chloride gm. 6.0 to 9.0 daily for alternate three-day periods, has given fair results.

The ammonium chloride is given during each meal in equally divided doses for a period of six weeks, repeating the course in alternate six-week periods.

A low salt diet accompanied by potassium chloride, two teaspoonfuls of a 25 per cent solution, twice daily with the meal, as introduced by Talbot and Brown has been found practical and useful.

Better results are obtained if the medical treatment is accompanied by attention to the patient's habits. Even distribution of the food and fluid intake during the day, reduction in the working hours, adequate time to rest and mild sedation are helpful.

Inflation of eustachian tubes in cases of labyrinthine dropsy has not been of value.

Histamine therapy has been widely used. Intravenous injection of histamine according to Horton's method, 2.75 mgms. of histamine diacid phosphate in 250 cc. of normal saline in a period of one and a half hours or more has been useful in relieving an attack of vertigo. The effect appears to be in some way due to the vasodilator effect of histamine.

I have not been able to satisfy myself that subsequent attacks could be prevented by subcutaneous injections of histamine several times weekly.

The theory that a patient may be desensitized to histamine seems to have been refuted.

Nicotinic acid has also been a popular method of therapy.

Many drugs have been used for treatment of this disease, including atropine, pilocarpine, epinephrin, and saline laxatives. The antihistamine drugs, benadryl and parabenzamine do not appear to have produced definite results as yet. The general experience has been that the attacks of vertigo could be more or less alleviated in the majority of cases by medical treatment.

Patients are more concerned with the prevention of vertigo than with the auditory difficulty, unless both ears are involved, when the deafness may become a serious handicap.

In about 10 per cent of cases, because of failure of medical therapy and the hazard involved in certain occupations in case of vertigo,, some form of surgery is justifiable.

2. Surgical treatment. 1) Intracranial section of the vestibular portion of the eighth nerve was introduced by McKenzie of Toronto and has since been carried out on a large series of cases by Dandy. Although the operation is ideal in that the auditory division of the nerve is spared and reported results have been good the operation has not been free from complications and the tendency on the part of most neurosurgeons seems to be to reserve it for carefully selected cases.

2). Various procedures have been performed on the labyrinth for this condition.

Portmann's operation, opening the endolymphatic sac, has given only partial success. Experiments indicate that the operation has no rational basis.

Injection of alcohol into the labyrinth destroys hearing as well as preventing the attack of vertigo, but has also caused a facial palsy.

A labyrinthotomy with destruction of the endolymphatic labyrinth either by evulsion, instrumentation or coagulation within the canal and vestibule has proved to be a simple and safe way of preventing further vertigo. However, the hearing has been destroyed in almost all cases. The operation is not suitable therefore for the bilateral cases but has been satisfactory from the patient's viewpoint in unilateral cases since the hearing had already been greatly depressed from operation.

Varying degrees of relief from the noises in the ear have been obtained.

2. The terms Ménière's disease, Ménière's syndrome or symptom complex, and pseudo-Ménière's syndrome are defined.

3. The differential diagnosis in the presence of pseudo-Ménière's syndrome is discussed.

4. The various inner ear conditions which may produce Menieré's syndrome or symptom complex are discussed.

5. Labyrinthine dropsy or Ménière's disease which is the most common cause of Ménière's syndrome is discussed in some detail.

Diagnosis and Treatment of Rectal and Sigmoid Polyps*

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POLYPS OF the rectum are growths that originate from the mucosa; they may be one or numerous, pedunculated or sessile, and the mucosal covering may vary from a normal smooth pink appearance to a highly inflamed, soft friable bleeding mass, according to its rate of growth. In size, they may be small or large, but when multiple polyps are found, they will be in varying degrees of formation with the sessile type predominating. In multiple polyposis the intestinal mucosa may be smooth and normal between the polypoid outgrowths or there may be a diffuse hyperplastic pathological change of the mucosa with polyps everywhere. The former condition lends itself to treatment, but in the latter, the gut or section of gut will have to be resected.

Why some people have polyps and others do not is hard to explain. We do know positively that there is a hereditary form of multiple polyposis that is passed down either from father or mother to their children. We also know that following ulcerative colitis polyps are sometimes found during a routine check-up, that the patient did not have during the disease. In other patients who have never had ulcerative colitis nor a history of familial polyposis, several polyps are often found which are hard to account for.

We know that all living cells have a tendency to multiply and in any injury this process is increased until the damage is repaired and then normal activity resumed, but there may be that type of individual where the inhibitory medium is disturbed, allowing a proliferation of cells into a polyp or growth which may stay dormant or run wild and malignancies result.

Polyps may occur in any age. We have found them in a two-week-old infant and they were of such size that I am sure they were present before the child was born. I have seen them in seventy-year-old individuals and in all ages between these two extremes. Numerous children between six months and ten years of age whose symptoms included mucous, some blood, and varying degrees of diarrhea, upon examination were found to have one or more polyps in the rectum or sigmoid.

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I remember one little boy, five years of age, who had been treated for three years, off and on, for amoebic dysentery because he had mucous, blood, and a mild diarrhea, and in a previous stool examination at two years, amoeba were supposed to have been found. Upon sigmoidoscopic examination, he had three polyps, two in the rectum and one in the lower sigmoid. These were removed under anesthesia with fulguration, and in three weeks' time all of his symptoms had disappeared. Knowing that a patient who once had polyps is likely to have a recurrence, I have made a yearly check-up for the past three years, and each time there were one or two polyps found and removed. This child has a dismal future ahead of him, I am sure, and I would not be surprised if he develops a malignancy before he is thirty years old.

In the Out-patient Clinic six years ago, a fourteen-year-old white girl came under my observtion who had a diffuse multiple polyposis. Polypoid masses of various sizes began just inside of the anus and continued as far as I could go with the sigmoidoscope and the x-ray showed the rest of the colon similarly affected. We felt sure this was a case of familial polyposis and tried to persuade her to have the rest of the family examined but could not get any coöperation. Feeling that with so many polyps it was just a question of time before one or more would be malignant, we advised a total colectomy but this was refused. She gave a history of mucous, diarrhea, occasional blood, and vague abdominal cramps of five years' duration.

At the present time we have a patient whose history I am sure would be of interest to you. She is a white woman forty-five years of age. who has had a mild diarrhea since she was ten years old. She thought nothing of it until twelve years ago when, at the age of thirty-three, the diarrhea became more pronounced with much mucus and occasional blood and vague abdominal pains in the left lower quadrant, associated with weakness. She was examined by her doctor who diagnosed the case as amoebic dysentery and since then she has had four other doctors with twenty full treatments for amoeba with no appreciable result. At no time had she ever had a rectal, sigmoidoscopic, or x-ray of the colon.

Her son, twenty-two years of age, who had been in the Navy sixteen months, developed diarrhea, mucus, and some blood and in the course of a thorough check-up, he was found to have numerous polyps of all the colon; the ascending, transverse, and part of the descending had to be resected due to the fact that they were so large and numerous. The rectal and sigmoid polyps were removed by fulguration, the ileum was inserted into the sigmoid and this saved him the use of the rectum.

He insisted that his mother come to Memphis to be examined because, as he said, "I am sure that you have the same condition." Upon examination, she was found to have fifty-seven polyps of the rectum and lower sigmoid, and x-ray of the remaining colon showed several small polyps. The lesions were distinct units upon relatively normal bowel mucosa and varied in size from a coffee bean to a bantam egg. A biopsy of the larger ones showed no malignancy. Several of these polyps were in easy reach of the gloved examining finger so that if a rectal or digital examination had ever been made, they were bound to have been discovered.

Her sister then came in, and she had numerous polyps of the rectum and sigmoid and one large one in the transverse and one in the ascending colon. The family history is significant and interesting. Her mother died after an abdominal operation, but she did not know the cause. She had six brothers and two sisters. Four brothers died at the ages of thirty, thirty-three, thirty-six, and forty-five, respectively, of cancer and all had a diarrhea, mucous, and blood for years before death. One sister is apparently free of polyps, or, at least, free of its symptoms. The other one has been described previously. The two remaining brothers apparently are all right. The sister who is seemingly normal has two children, twenty and twenty-two years of age, who, according to their aunt, also have intestinal disease. This family is of interest because I am sure it is one of familial polyposis that was not diagnosed early and, as a result, several have died of malignancy.

Realizing the seriousness of these ladies' conditions and the probable outcome, yet hesitant to advise such a major operation at this time, we decided to temporize by removing the rectal and sigmoid polyps by fulguration, which was done, advising them to come back at six-month intervals for proctoscopic and x-ray examination. We knew that more polyps would spring up in the rectum and sigmoid which would have to be removed from time to time, but it would also give us definite information if the rectum and sigmoid could be saved for use if and when the rest of the colon should have to be removed. The first eighteen months following the above procedure their symptoms practically disappeared and only a few rectal and sigmoidal polyps had to be removed. Then diarrhea, mucus, and blood began to become more persistent and x-ray of the colon showed numerous small polyps appearing. We decided if the lives of these patients were to be saved, something radical would have to be done. During this time it was decided that we could save the rectum and sigmoid of the first patient but the second or younger sister could not be controlled. The first patient had the ascending, transverse, and part of the descending colon removed, and the second patient has had an ileostomy, preparatory for colectomy.

The gross appearance of the polyps is easily observed by a sigmoidoscopic examination. Often they are single, small sessile growths that vary in size from 5 mm. to 1 cm. in width and protrude from the mucosal surface about the same distance and when not infected, ulcerated, or inflamed, have the same coloring as normal mucosa. Any sessile polyp the size of a dime or larger should be studied carefully because it has a tendency to become malignant more than the pedunculated polyp. These polyps may cover a third of the gut wall and completely fill up the lumen at that particular level. The pedunculated polyp has a pedicle that varies from a fourth of an inch to three or four inches long, according to size of the polyp and the hypermotility of the gut in trying to rid itself of a foreign object. These polyps may have a normal pink mucosal covering or if inflamed, will be darker red, often ulcerated or bleed freely. Occasionally due to bowel movement or excessive peristalsis, one of these polyps will be torn off and patients are known to have bled rather profusely.

Occasionally you will see a gut wall that is hyperplastic and literally covered with polyps in all degrees of formation and all types of polyps, and if these are carefully examined, you will often find that some are adenocarcinomatous.

The symptoms of polyps vary greatly due to their size, number, location, and the intestinal sensitiveness of their host. I have seen a single polyp of medium size in the rectum cause mucus, blood, diarrhea, and a sense of incomplete evacuation after stools. In other cases we have found three or four polyps in the sigmoid of a preoperative hemorrhoid case while making a routine examination that, so far as the patient knew, never caused him any trouble and came in only because he had large prolapsing, non-bleeding hemorrhoids. As a rule, most people with one or more polyps will have an increase in mucus, some disturbance of the bowel habits, and occasionally flecks of blood in their movements.

In children, particularly, if the child has diarrhea, mucus, and blood, polyps should always be suspected. The diagnosis of polyps should not be hard if we use the modern instruments that are available, i.e., the rectal speculum, the sigmoidoscope, x-ray with the barium and contrast pictures, and by all means, the gloved digital examination. There are two places that growths are liable to be overlooked while making a rectal and sigmoidoscopic examination. In the posterior part of the rectum just past the anal canal, there is a rather large depression and if not examined carefully a growth can very easily escape detection. The other place is behind the semilunar valves; as the scope is being withdrawn the valves should be depressed outwards so a clear view is obtained behind routine examination which were not suspected and others are found in investigating some vague abdominal complaint, or in trying to determine the cause of blood, mucus, and diarrhea which the x-ray or laboratory failed to determine.

We know that the rectum and pelvic portion of the sigmoid are rather a blind area for the x-ray; also that ulcers and small growths do not show up so well in this location, so in these cases where pathology is suspected, it should be very carefully studied with the sigmoidoscope. In the treatment of polyps, it is needless to say when found they should be removed; how removed depends upon many factors, i.e., benign or malignant, small or large, location and the condition of the gut wall and the number of polyps that might be superimposed upon it.

Benign polyps that are in reach of the sigmoidoscope may be removed by fulguration; if malignant, then a resection is indicated. On those that can not be reached by the scope, a laparotomy will have to be done, and the polyp removed or a resection according to whether benign or malignant, or perchance there are so many polyps in a given area of gut that a section of that portion will have to be removed. In those cases where the gut wall is diseased and hyperplastic and the polyps are numerous, fulguration is not feasible but dangerous, and that section of the gut or sometimes all of the colon so affected will have to be removed. In fulgurating a polyp the organ should be free of all feces and as dry as possible. It is not necessary to give an anesthetic as there is no pain and an anesthetic is given only when the sphincter has to be over dilated or cut to get to some inaccessible or large growth where the fulguration has to go deep.

Recently, in my office, we fulgurated forty-seven polyps in the rectum and sigmoid without anesthesia and with practically no discomfort to the patient. The patient should be in an inverted position as it is much easier to see and treat the lesion and in the sigmoid area there is less likelihood of damaging a small intestine. If the lesion is small and below the peritoneum, then it can be fulgurated and the patient go home; however, if it is of a fairly good size and above the peritoneum, then the patient should be put to bed and observed until all danger of hemorrhage or perforation is passed. If a reasonable amount of caution is observed and you know just how much to fulgurate, I do not think there is fairly much danger in this method. In cases where polyps are numerous and some fairly large ones present and the condition in your judgment is one that fulguration is applicable to, you may have to destroy a few at a time and some more several months later until all are eliminated.

I might add in pedunculated polyps never cut the stalk without first ligating it securely or, better still, coagulate the stalk and base thoroughly and then cut or snare it off. Also, never biopsy a polyp if you do not have a fulguration set or Monsel solution at hand; otherwise, you are likely to have a hemorrhage that is very embarrassing to you and perhaps result in serious consequences.

In conclusion, may I warn you that polyps are not the innocent little masses of mucosa so commonly thought of by many. Some cause symptoms and others do not, but when we realize that a good percentage of polyps, if left alone, will in time become malignant, then it is our duty to remove them whenever found. May I suggest that any patient with amoebiasis who does not respond fully to treatment, or soon has a return of his symptoms of mucus, blood, gas and diarrhea, be subjected to a thorough rectal and colon examination; otherwise, we are likely to miss polyps, cancer, or innumerable other pathological conditions that might be present.

Permit me to remind you that the rectum and colon are practically devoid of sensory nerves and grave pathological changes may be taking place without very many symptoms to the host; that laboratory and x-ray technique are not infallible. Then, unless we begin to use the rectal speculum and sigmoidoscope as freely as the stethoscope and blood pressure instruments in a general check-up, we are bound to lose many a patient who could have been saved.

Beneath all literature, music, nature and social life there is a soul—a meaning, a throb, a glow, a rapture, a mystic something that moves the soul to great joys, great gladness, great experiences. Spiritual realities alone bring the soul out into its real realm—the superlative.

Vincent's Infection*

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We all see Vincent's infection occasionally and probably most of you have your own ideas about the disease and about its treatment. Therefore, I invite free discussion at the end of my paper.

The usual textbook picture of Vincent's stomatitis and Vincent's angina calls for the presence of large numbers of spirochetes and fusiform bacilli in smears from ulcers on gums and tonsils. I believe these diagnostic criteria are too exclusive and that fusospirochetal organisms are active and important etiologically in follicular tonsillitis and in chronic gingivitis, as well as in the infections characterized by ulceration and membranous formation. It is very difficult to defferentiate clearly Vincent's infection and streptococcus infection in tonsillitis, whether or not bacterial smears and cultures are made. Vincent's organisms can be found in large numbers in smears made by aspirating material from inflamed tonsils by suction, while smears made from ordinary throat swabs of the same tonsils would show only occasional Vincent's organisms with various cocci predominating. The spirochetes and fusiform bacilli form a symbiotic group along with various streptococci, staphylococci, and vibrios. I suspect Vincent's infection as more important in follicular tonsillitis as well as in typical Vincent's angina, while throat infections that are primarily streptococcal usually present a more diffuse inflammation of pharynx and tonsils. It is important to differentiate somehow, because penicillin lozenges used for one to three days are apt to be effective enough in Vincent's infection[1], while it takes about a million units of penicillin administered parenterally to treat an hemolytic streptococcus infection of the pharynx[2] adequately.

Vincent's organisms are known to be present in the mouths of most people. The activity of the Vincent's organisms depends upon various factors which may lower the resistance of the gum tissue, and a gingivitis often leads to tonsillitis or Vincent's angina. The factors which favor invasion of gum tissue by these organisms are as follows: trauma to the gums as during detention; inadequate daily use of the toothbrush; accumulation of tartar causing irritation of the gum line; gum line cavities; overhanging fillings; mal-occlusion; partially erupted third molars, the gum flaps of which are perfect harbors for bacteria; vitamin deficiencies; intoxications by over-doses of certin drugs, such arsenicals and heavy metals; and undoubtedly also psychosomatic factors. Therefore, correction of these factors in so far as possible by the dentist, working in conjunction with the physician, is essential for permanent cure of cases, whatever medicine is used; and this fact needs to be more generally realized by physicians.

It is generally assumed by most doctors that Vincent's infection is highly contagious. However, this viewpoint has been questioned and perhaps entirely refuted in recent years. Certainly there may be some element of contagion in Vincent's infections but there are many bacteriological and clinical observations which indicate the fuso-spirochetal infections arise from endogenous foci. I expressed this view in a paper read before the Arkansas Medical Society in 1941[3]. This viewpoint was strongly advocated in an article by Roseberry[4] in 1942 and last year a committee of the Research Commission of the American Dental Association reported[5] that "Vincent's infection, when less well known, was thought to be highly infectious. More recently, as a result of careful research, plus the observation and experience of many clinicians in the field, this theory has been largely discounted. Vincent's infection seems to be one of a group of endogenous infections, which, like sub-acute bacterial endocarditis, or peritonitis due to intestinal perforation, are induced by ordinarily harmless surface parasites under particular conditions. These diseases as a group are not communicable."

Vincent's infection is one of the diseases with many remedies, which usually means none of the remedies is too efficient in itself. I shall, of course, discuss some of the many medications that are used in treatment of Vincent's infection. However, a clearer understanding of the infection is essential for proper management of cases. Therefore before going on to a discussion of therapy, I would like to outline the natural history of Vincent's infection as it may manifest itself at varying periods in man's life.

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*Read before the Northeast Mississippi Medical Society, January 9, 1947.

Infants must pick up these organisms fairly early. They are sometimes present in considerable numbers in gums traumatized by dentition and often seem to lead to a more or less severe tonsillitis in these small victims. I believe this is the cause of some fairly severe febrile episodes during dentition. Another invasion of gum and pharyngeal lymphoid tissue is apt to come at the time of second dentition when there are decayed baby teeth hanging loose and permanent teeth pushing through. Concurrent gingivitis and tonsillitis are seen with great regularity in these children. Often, perhaps, there is nothing we can do about this except have the bad teeth extracted and take the tonsils out, but it is a fact that many of these children will have normal gums and normal tonsils after they are through with dentition.

Another peak in the incidence of Vincent's infection of the mouth and throat occurs at the age when young people begin to erupt their wisdom teeth. A partially erupted wisdom tooth frequently gives rise to an infected gum pocket, ideal for the growth of these anaerobic organisms. Probably the majority of severe Vincent's infections we see in college students and people of that age group begin in such pockets, the spread to the rest of the mouth and frequently to the throat.

Some acute cases of gingivitis go on to become chronic. A large percentage of our patients have a more or less mild, chronic gingivitis. Pyorrhea alveolaris may represent the end stage in this process in some cases. All cases of pyorrhea show large numbers of Vincent's organisms. One of the commonest abnormalities we encounter during physical examinations is gingivitis or pyorrhea. Yet, more often than not, little treatment or advice is given the patient to correct this.

Patients should be advised and encouraged to take proper care of their teeth every day and in some patients this calls for unusual care in the brushing process, and many of them should use dental floss daily to prevent accumulation of food between the teeth and the accumulation of tartar. Proper care by the dentist is essential. Most gum infections can be successfully treated with local applications or systemic treatment without the aid of the dentist, but these cases are bound to relapse unless proper dental care is given.

Rather than try to discuss and evaluate all the multitude of medical agents that are used in treatment of gum infections, I will mention only a few items which I believe are generally most useful. First, I would like to endorse the surprising efficacy of frequent hot mouth washes. This seems ridiculously simple, but it will help greatly in clearing up an acute gum infection and its use routinely will keep in a fairly healthy condition gums which are otherwise chronically infected. Dentists often prescribe hot salt water mouth washes and I believe that hot water without the salt is equally as effective, but the mouth washes must be hot and must be used a number of times daily. The patient with gum infection should then receive whatever care is necessary by the dentist, particularly dental prophylaxis (scaling of tartar), elimination of gum line cavities, or correction of other abnormalities of the teeth.

Bismuth injections have been popular with physicians and dentists alike for a number of years for treatment of severe Vincent's stomatitis and Vincent's angina. I think that bismuth still has an important place in therapy of these infections, particularly in children, but of course penicillin is the agent more generally used nowadays than any other. Before the days of penicillin I found bismuth to be highly effective in treatment of acute tonsillitis with or without obvious signs of Vincent's infection. One injection of a bismuth preparation would ordinarily clear up a tonsillitis more rapidly and more satisfactorily than sulfonamide therapy. (An editorial in the J.A.M.A., March 22, 1947, points out that deaths have been reported from several centers following the use of 'Analbis' suppositories. "At least ten infants are reported to have died. Investigations by the Food and Drug Administration have revealed that none of the deaths can be attributed to bismuth poisoning, and it cannot be alleged at this time with certainty that the suppositories were responsible. However, in most instances investigated it was learned that three to six times as many suppositories were used as recommended by the manufacturer as the maximum dose. Diallylacetic acid may have been the cause of the deaths (these suppositories contain the bismuth salt of diallylacetic acid distributed in cocoa butter base) . . . 'Analbis' suppositories were voluntarily withdrawn from the market by the manufacturer after notification by the Food and Drug Administration of the deaths allegedly due to this preparation.")

Regarding penicillin treatment of Vincent's infection many favorable reports have accumulated in medical literature in the past two years. Penicillin is highly spirocheticidal, as witnessed by its marked efficacy in the treatment of syphilis. Penicillin has been used by various technics for Vincent's infections. Treatment for one day with injection of 20,000 units every three hours has been reported efficient[6]. However, I am inclined to believe that treatment should be continued longer than twenty-four hours. Penicillin lozenges are, of course, used more generally than injections for infections of the mouth and throat. The manner of use of lozenges is not yet standardized, however. Some authors have reported good results using fifteen to twenty daily[8]. I have not had an opportunity to observe enough cases to advise definitely on this point, but judging from various reports, I think that one 10,000- or 20,000-unit lozenge every three hours for two or three days should be adequate for stomatitis, Vincent's angina, and perhaps even for follicular tonsillitis whereas hemolytic streptococcus infections of the throat will require parenteral penicillin (or penicillin orally in doses of 50,000 or 100,000 units every three hours) for four days at least[2]. Authors who have studied Vincent's infection thoroughly still emphasize the necessity for adequate dental care to avoid relapses and chronic infections.

Mass Tuberculosis X-ray Survey

WASHINGTON COUNTY, MISSISSIPPI

N. C. Knight, M.D., M.P.H., and Myrtle Ousley, B,S., M.S.P.H., Co-Authors

This paper is presented from the standpoint of the community organization involved in attempting to make chest x-rays on all the population in Washington County fifteen years of age and above. The purpose of the mass x-ray surveys was to locate all cases of tuberculosis in this age group. Community organization was begun two months before starting the x-raying. A mobile x-ray unit, weighing 17,000 pounds, and using 70 mm. films, was used, so that the service could be carried to the people. Using this method the people did not have to travel long distances to get their chest x-ray done. Personnel required to operate the mobile unit was two technicians and two clerks, full-time plus voluntary clerical personnel frequency. The unit worked eight hours per day, five days per week, for two and one-half months, 25,000 people out of a possible 35,000 being x-rayed. The films were interpreted in the office of the TB Control Unit of the State Board of Health in Jackson, Mississippi. At this time the findings have not been completely tabulated.

Washington County was the first of the eighty-two counties in Mississippi to be serviced by the State Board of Health's mass x-ray survey. This program was sponsored jointly by the state and local health departments and state and local TB associations.

The success the county x-ray survey attained can be attributed to the careful planning and participation of the people who joined hands to combat a major public health pro-

Washington County is unique in many respects. The county parallels the Mississippi River on the west and lies within the very heart of fertile Mississippi Delta lands. It has an area of 723 square miles and a scattered population of approximately 60,000 of which 75 to 80 per cent are Negro, only a very small number belonging to any one group. It is predominantly an agricultural county — cotton being the one main source of income. Washington is one of the wealthier counties in the state. Despite the racial prejudices the civic-minded people manifest a great interest and pride in improving the health and welfare of the masses. This was evident in the county-wide TB x-ray survey just completed.

This mass chest x-ray survey included everyone fifteen years and over. The estimated population of this age group was approximately 35,000 based on 1940 census. The objectives of the long range program were: 1) case finding, 2) education, 3) financial aid to families depleted by the disease, 4) hospitalization, 5) rehabilitation.

Preliminary to all activities connected with the survey, there was a great interest in the local tuberculosis problem. Several civic groups had participated in TB education activities and several attempts were made to strike at the problem before the services of the mobile x-ray unit were available.

Two months prior to the arrival of the mobile x-ray bus a small group of people began an intensive study of the ways and means to promote and execute the survey. The following chart shows the administrative plan resulting from this group thinking and planning.

This group functioned as the steering committee which formulated the plans and procedures for organizing the county, the education activities and the general operation methods of the entire survey. This committee realized that it was essential to the success of the program to secure the active coöperation and participation of all the existing officials and non-official organizations in the county such as men's civic clubs, women's clubs, church clubs, Red Cross, agriculture, and individuals not connected with such groups that might contribute leadership. Representatives from each of these groups formed the county-wide sponsoring committee. This group served as the melting pot for pooling ideas, formulating specific plans and procedures. These two committees served as the governing bodies of the entire survey. A board of consultants from the county and state was available to assist with the administrative and technical aspects of the program. From the very beginning the program belonged to the people — not the health department. They were made to realize that it was their program and that the responsibility for its success depended upon their support and efforts. The program was actually done by them under the technical guidance of the public health people.

Planning the techniques of the county-wide program heightened interest in those who participated. In order that the people would have an intelligent appreciation and sympathetic understanding of the mass x-ray program and its relationship to community health, education programs of various types preceded the actual x-ray service. Community attitude was influenced by authoritative talks and visual aids to teacher groups, schools, civic clubs, church groups and lectures by tuberculosis specialists to physicians. These were aided by exhibits, newspaper publicity and radio.

Community chairmen, both white and colored, were present from their respective communities. These were elected by various groups: home demonstration clubs, TB committees, teacher organizations and church groups. Each of these chairmen assumed the responsibilities for her area by securing volunteer workers and designating responsibilities. Before these chairmen and their workers began their activities, they participated in the Training Institute for Home Visitors. This course, conducted by the health educator, consisted of information to be given out, instructions for making appointments and techniques of approaching the public. Included in this institute was a brief discussion of the disease, the TB problem in Mississippi and a film showing, followed by a question and answer period. The responsibilities of these leaders were: 1) working closely with negro chairmen in setting up plans, 2) deciding on Unit placements, 3) indicating approximate number of individuals, fifteen years and older, to be reached at each placement, 4) securing home visitors and arranging for traning institutes, 5) supplying clerical assistance at the bus and serving as hostesses to direct the people, 6) arranging for community education meetings, 7) assisting with publicity, 8) disseminating information.

Organization of these groups contributed greatly to the educational phase of this survey and placed the responsibility for the entire program on the local community. We found that the people accepted this task as something they must do for themselves and they felt the responsibility. It was their program — its success or failure was in their hands. There were about 800 volunteer workers. We found professional and business women and housewives making home visits, contacting business firms, making appointments for x-rays and serving as clerks at the unit placements. They were entirely away from the old idea that the health department was trying to do something for them. "Self-interest" was the motivating drive. This, we believe, is due to the fact that the whole survey began by establishing communication with the people. The program began with the people — where they were — and it worked with them rather than with scientific knowledge, subject matter, or technical aspects. It was they who developed a plan and it was they who made it function. We think the keynote was participation. It was most stimulating to see the community at work on a common problem, striving for only the best results.

Educational Media

For obvious reasons the procedures and techniques to be followed were adapted to the groups handled.

From the beginning the program had an excellent press. Both news and feature stories were freely published, and editorial support was generous and consistently favorable. Fifteen-minute radio scripts were on the air every two weeks reporting progress to the community. Spot announcements were made three times daily — including the announcement of bus schedules.

Tuberculosis exhibits and posters were displayed throughout the business districts. The art department in the high school made twenty original posters that contributed to the display program.

A large banner "Fight TB — Have Your Chest X-Rayed" floated across the main street during the campaign.

Commercial posters and flash stands were displayed in store windows and public places.

Handbills were mailed out in Mississippi Power and Light statements.

Letters were written to all ministers, mayors, Chambers of Commerce and classroom teacher organizations.

Many church bulletins carried information about the program.

Cafés and restaurants attached small slogan cards to their menus.

Theatres ran trailers on TB x-ray and bus schedules.

Regular verbal and written progress reports were made to the people.

Schools played a separate and distinct role in this program. They were surveyed separately from the community groups. It was recognized that those most concerned — the pupils who were to be x-rayed — should be given sound, scientific information so that they would be prepared psychologically for this new experience. Individual classroom talks were planned and found to be effective since a full period furnished ample time for a brief talk, questions and discussions. Assembly lectures with showing of films were also advantageously used. In every instance these meetings were followed up or preceded by a study on tuberculosis. The x-rays were made on a volunteer basis and the high percentage of responses was attributed to the interest aroused through educational media and the follow-up in the classroom.

In addition to the approaches suggested, a complete program of follow-up attempts, through education, helped inform families of the community's resources. We were favored in having the support of two strong organizations — the Junior Auxiliary and the local TB Association — which contributed generously to the success of this program.

Summary and Conclusions

This survey demonstrated its value from the standpoint of:

1. **Education** — in community and schools.
2. **Protection** — protection for our children (same as the dairy cattle).
3. **Prevention** — with x-ray, tuberculosis cases of the future may be found early enough to prevent widespread dissemination of the disease.
4. One very important effect on the entire county was the feeling of satisfaction and accomplishment on the part of the people from working together toward a practical goal.
5. A permanent organization resulted that will want to continue to promote the health and welfare of the Washington County people.
6. Twenty-five thousand x-rays taken in a period of two and one-half months. The mobile unit operated five days per week.
7. Need for follow-up, adequate facilities, and continued education.
8. It was concretely demonstrated in this survey that the people were aware of their responsibility for its solution.

"Strive to be too large for worry, too noble for anger, too strong for fear, and too happy to permit the presence of trouble.

"We can do this if we will. It is simply a matter of developing the best that is in us."

Ten Years' Future of Mississippi Medicine*

J. K. AVENT, M.D.
Grenada, Miss.

MISSISSIPPI'S future is rooted in health. Health is imperative for progress and survival.

Great tasks lie ahead for our Mississippi state medical association for the next ten years. 1943, 1944, 1945 were years of decision; 1946 was the year of planning. The next ten years will be years of accomplishment. A positive approach and hard work will bring results.

These are some of the problems:

NEW NATIONAL LEGISLATION: The Taft, Smith, Ball Bill.

1. A new agency for administration of this legislation separate from U. S. Public Health Service and the Federal Security Agency.

2. Doctors to be appointed by the President to assist in the administration.

3. The entire program to be based on plans submitted by states with a means test to be administered at the state level. The President has asked Congress to enact, "A National Health Program" as presented a year ago.

VOLUNTARY PREPAYMENT medical plans are growing rapidly in Mississippi. Very soon they will be an issuing policy.

HILL-BURTON DEVELOPMENTS are also rapidly taking form in Mississippi. In the next ten years the quality of hospitals in Mississippi will be second to no other state. We'll need 8,500 beds to give four beds per thousand. We need to double our present bed capacity. The wonderful survey and outlines of the Mississippi Commission on Hospital Care as about completed will increase longevity of Mississippians for decades to come.

The American Academy of Pediatrics has completed its survey in Mississippi and very valuable information was gathered. Child health is fundamental for the home and essential for the nation.

We should watch our state legislature for laws the cultists are trying to pass.

Your committee on cancer has rendered a great service, promising still greater future possibilities. In the next ten years I predict the National Cancer Society will find the solution to cancer—which may be several causes. The present approach has many fundamental possibilities for this solution. The financial assistance by the U. S. Government certainly gives power and future to this most vital subject.

The poliomyelitis drive and the proposed construction of a large children's hospital can only let your mind wonder at the marvelous results to be accomplished in the next ten years. At this point may I congratulate the Mississippi State Medical Association for its stand for the 4,300 unfortunate individuals in our state.

The legislators have been derelict in their duty toward the insane, and some day the Great Creator is going to hold them responsible. In the future we hope to have an institution where the internship for psychiatry will be recognized.

Medical education in Mississippi in the next ten years will see a medical school that will be a modern and scientific monument to medical progress in the South. An adequate State Board of Health building will be in the group, as well as a large university hospital with services connected. A government supported research center will allow the grouping of clinics for spastic paralysis, cancer, polio, heart diseases, etc.

With oil a certainty in Mississippi, millions in the treasury, government bonds, the health and scientific education of Mississippi will go forward. The great heavenly Father has his hand in ours. May we and all Mississippians let Him safely lead us this decade for health and usefulness.

The Mississippi Medical Association is practically doubling all its facilities.

There is plenty of rich, fertile, uncleared, and uncultivated land in Mississippi to raise 4,000,000 bales of cotton instead of under 2,000,000.

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*President's address delivered before the seventy-ninth annual session of the Mississippi State Medical Association, May 5, 1947, Biloxi, Miss.

With modern machinery, we can easily double our beef and dairy output. The unused pasture land is here. Instead of doubling industries, we need ten times as many as we have at present. The best Delta towns are those that have industries. May this organization appoint a committee to function as the "Industrial Committee" to sponsor routine medical examinations in all industries in the state. This would help to ward off socialized medicine. We would be the first state in the Union to have such a state routine examination. Viewing our industries, scanning fields, untilled vallies, and large unused pasture areas from the air, and with my hunting experience in the woods, brings me to this positive conclusion.

The next ten years will find every doctor's wife anxious for the annual state medical meeting. By then they will be the motivating factor for social enjoyment and future awareness of the soul of our meeting—a soul that will be an inspiration for every doctor, dentist, and nurse who attends.

Medical applications of atomic energy in the next decade for our state will revolutionize our practice of medicine. There is a long range program studying the products and problems of this radio-active material. The electron microscope which reproduces 100,000 times enabling us to photograph viruses of influenza, polio, encephalitis, etc., will add power to science and research in our medical schools of Mississippi. We will be able to look into the molecule and see the structural basis of life. Every doctor has a distinct culture stamped all over him. At work and at play he is beaten upon by a continuous stream of stimuli from other human life pulsing about him. A doctor is a part of eternity always trying to find itself. From the medicine man of old to the modern clinic is a long way. Again and again mystery after mystery has been probed; again and again the utterly impossible has won acceptance against ancient truth; again and again the reach of medicine has been enlarged. Adequacy of medical care is unusually baffling. Only the exceptional person is given all the arts of diagnosis, x-ray, therapeutics, dentistry,etc. Adequacy of medicine in Mississippi in ten years hence will take care of the emergency and prevent the future sickness.

We have the only country in the world where real liberty and freedom are found. We have a state with a future. In no other land do people enjoy the privileges and high standards of living which we in America and here in Mississippi have. For the next ten years of progress in Mississippi medicine, we need to draw a line as they did in the battle of the Alamo in Texas, and dare Communism and socialized medicine to cross. May we doctors die as we live, working for the sick and for God.

Life's greatest experiences lie in the discovery of the soul of:

The world of literature
The world of nature
The world of the beautiful
The world of music
The world of moral splendor
The world of spiritual grandeur

The Mississippi Doctor

Published monthly at Booneville, Mississippi.

Entered as second-class matter, January 19, 1926, at the post office at Booneville, Miss., under the Act of March 3, 1870. Annual subscription $1.00.

The journal with a vision which encourages a plan of delivering modern medicine to the masses at less cost to the individual and more profit to the practitioner. It champions the community hospital, the hub around which this service must be built.

W. H. ANDERSON, M.D. .... Editor-in-Chief
MILDRED P. ANDERSON .... Assistant Editor

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Gilbert J. Levy, M. D. .... Director of Exhibits
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Address all **material for publication** to W. H Anderson, M.D., **Booneville, Mississippi.**

STATE MEETING

Our state meeting at Biloxi was outstanding. The registration was about 380. The auxiliary, the helpers always of the doctors, came up about two hundred strong. The local doctors were fine in furnishing the very best entertainment. The scientific program proved to be the best in years, with an especially large attendance at the surgical section.

Our president, Dr. J. K. Avent, graced the chair in fine style. Speaker J. Rice Williams presided in his usual pleasant and able manner.

The association had a fine representation of exhibitors, which always are a big factor in making a meeting successful.

The incoming president of the association is Dr. Paul Gamble of Greenville. His brother Hugh preceded him as president of the state association many years ago. Dr. Paul Gamble, modest but able, loves the practice of medicine and is an outstanding Christian citizen.

Dr. R. B. Caldwell of Baldwyn is president-elect. A leader in organized medicine for many years, he is very popular in the association, having served on the State Board of Health and on the Council.

Outstanding visitors in addition to the essayists were Dr. George F. Lull, secretary-manager of the American Medical Association, Mr. C. P. Loranz, secretary-manager of the Southern Medical Association, and Dr. Rudolph Matas of New Orleans, the senior consultant on world surgery.

The 1945 meeting is to be held in Jackson next May.

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FIFTY-YEAR CLUB

The following resolution was written by Dr. W. H. Frizell of Brookhaven giving definite form to the Fifty-Year Club which has been in the process of being born for about three years. Dr. W. A. Evans of Aberdeen who is and has been a member of a like club in Illinois for a number of years, has been in practice about sixty-two years; Dr. Scudder of Mayersville has practiced at the same place for a little more than sixty years. Dr. Matas of New Orleans was the special guest of the luncheon given for the club this year by the editor, and is numbered among the members. We recognize Dr. W. A. Evans as the father of the club.

The resolution follows:

> Be it known that the undersigned members of the Mississippi State Medical Association in good standing and who have been graduated from a recognized standard medical college for fifty (50) or more years do hereby organize a club which shall be known as the Fifty-Year Club of the Mississippi State Medical Association.
>
> All worthy members of the State Medical Association who have or may become eligible to this club shall on application become members of said club.
>
> The Fifty-Year Club shall meet at some chosen place and deate each year, or oftener, at the annual meeting of the State Association, and have a social and business session for the pleasure and benefit of such members, eligibles, and guests.
>
> There shall be no assessment of dues but each member may contribute an amount to cover the cost of refreshments when such are served.
>
> Signed:
> J. RICE WILLIAMS, M.D.
> JOHN DARRINGTON, M.D.
> W. H. SCUDDER, M.D.
> BENJ. J. MARSHALL, M.D.
> W. JEFF ANDERSON, M.D.
> W. L. LITTLE, M.D.
> W. H. FRIZELL, M.D.

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An official message from the recent session held in Biloxi was telegraphed to me, expressing remembrance and love. How much I love you fellows, no one knows and I can not express. For forty-four years I have been privileged to sit as the representative of Monroe County in the house of delegates. These occasions are the high spots in my life. No one will ever know just how much I regret my inability to do so again. Thanks for your thought of me.

Please let me urge all members to write and visit me in my home. And I urge them to rush their pictures and data for the "Pictorial History of Mississippi Medicine."

With boundless love,

G. S. BRYAN

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The Southeastern Surgical Congress held a very successful session in Louisville, Kentucky, March 10, 11, 12. The meeting was presided over by President E. L. Henderson of Louisville, who is also president of the Southern Medical and holds important connections in the American Medical Association. The scientific program and entertainment were unusually good. Louisville, Kentucky, with E. L. Henderson leading, does all things well.

Dr. B. T. Beasley of Atlanta is the secretary-manager of this very fine organization.

Dr. Herbert Acuff of Tennessee is president now, with Gilbert F. Douglas of Birmingham as president-elect. The tentative meeting place for next year is Atlanta, Georgia.

News and Comment

FROM DR. GARRISON*

The wholehearted coöperation of many doctors in Mississippi has been evident in the current child health study in our state. A large percentage of our fellow physicians have freely given information which is vital to the success of this undertaking. The active interest of these men and women is gratifying.

Recording of medical services rendered by hospitals and public and private community health organizations in the state has reached the 100 per cent mark. Members of the dental profession have responded in splendid fashion.

It is with regret that we must apparently list some of our physicians as non-respondents. However, we trust that this list will diminish daily as these doctors realize the purpose and scope of the survey and the urgent need for the active interest of every practicing physician. We have just mailed our final appeal and trust that those who have not already returned their cards will do so at once.

Although sponsored by the American Academy of Pediatrics and the State Pediatric Society, this study of health facilities available to children is in reality the joint voice of the medical and dental professions speaking in behalf of a factual foundation for future planning for our children. Through the data collection and follow-up phases of the Study, it is hoped that a near perfect recording of child health facilities and services in Mississippi may be reached.

We extend a heart full of admiration and thanks to the physicians and dentists of Mississippi and to all others who have coöperated with us in this survey. Especially do we want to thank Dr. W. H. Anderson and the *Mississippi Doctor* for his coöperation and admirable service to us in this campaign.

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SOUTHERN BRANCH—APHA

More than 400 members of the Southern Branch of the American Public Health Association attended the 1947 annual meeting held at Hotel Peabody, Memphis, Tennessee, April 21, 22, and 23, 1947. This organization of public health workers in the District of Columbia and the following states: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia, for the first time met independently of the Southern Medical Association. Louisiana led the states with ninety-two registrations. Tennessee was second with eighty-six and Mississippi had fifty-eight registered with seven participants on the three-day program.

Sectional meetings including health officers, sanitary engineers, sanitation officers, public health nursing, health education, statistical and clerical, and laboratory were held, and three general sessions, one a symposium on tuberculosis, in addition. One joint session of all sections was held which was a symposium on the Recruitment and Training of Personnel. Sixty-nine speakers, discussants and so on contributed to the program.

Speaking on the first general session program, Dr. C. C. Applewhite, district director of the United States Public Health Service, District Four (and a former Mississippi public health worker) called attention to the life expectancy increase in years and attributed the specific reduction in diseases to well directed public health and medical efforts. He called attention to the Surgeon General's six-point health program and laid much stress on the fifth point, "expansion of local health services." The first objective of all public health administrators, Doctor Applewhite stated, should be complete coverage of the United States by well-trained, well-paid personnel. This he urged all public health workers to seek first.

Dr. D. V. Galloway, executive director, Mississippi Commission on Hospital Care, and Dr. Jack C. Haldeman of the United States Public Health Service, Washington, D. C., discussed hospital and health center construction.

Dr. John W. Williams, director of the Section of Local Health and Hospital Administration, State Board of Health, Jefferson City,

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*State chairman of the American Academy of Pediatrics.

Missouri, presided over the symposium on tuberculosis with the following items discussed: national program, state control, rural control, urban control, health education, hospital, and housing.

The Health Officers' Section had an interesting program divided into three parts—Cancer Control, Public Health Administration, and Mental Health. Speakers on these subjects included: Cancer—Dr. Alton J. Ochsner, Dr. Douglas H. Sprunt; Public Health Administration—Dr. Leon Banov and Dr. Carl Buck; Mental Health—Dr. Murray A. Diamond, Dr. Estelle A. Magiera and Dr. Lloyd W. Rowland.

Section Chairmen were:

Health Officers—Dr. W. K. Sharp, Jr.; Public Health Nursing—Christine Causey, R.N.; Sanitary Engineers-Sanitary Officers—Joell C. Beall; Statistical and Clerical Section—Dr. Don C. Peterson; Laboratory—Dr. H. C. Ricks: Health Education Section—Dr. Lucy Morgan.

The interest of public health workers, the attendance, and the enthusiasm of all assures the continuation of these meetings. It will mean a great deal in encouraging workers in the field who have mutual problems and will afford an excellent opportunity for an exchange of ideas and for helpfulness in solving problems.

Beginning in 1932, the Southern Branch is not a new organization, but the inclusion of all public health workers was begun in Memphis, Tennessee, in April, 1947. The fact that twenty-six physicians appeared on the program showed strong medical dependence.

In this meeting, the Southern Branch attempted to have a broader participation and an overall coverage of all public health problems.

LOUISIANA-MISSISSIPPI O AND O SOCIETY

At the state meeting of the Ophthalmological and Otolaryngological Society at the Buena Vista Hotel in Biloxi May 5-7, Dr. Noel T. Simmons, Alexandria, La., was elected president, and Dr. Edley Jones, Jackson, secretary.

MISSISSIPPI PEDIATRIC SOCIETY

Dr. F. G. Riley, Meridian, heads the Mississippi Pediatric Society as president for the coming year, with Dr. Lamar Arrington, Meridian, vice-president, and Dr. Byron L. Alexander, Jackson, secretary.

MATERNAL HEALTH PROGRAM

Dr. H. C. Franklin will serve as obstetric consultant with the Mississippi State Board of Health, in coöperation with the University of Tennessee and the U. S. Public Health Service, chiefly to assist county health departments in north Mississippi in carrying out an effective maternal health program in coöperation with the practicing physicians of the area, designed particularly to prevent deaths from eclampsia among expectant mothers in this area of the state.

Dr. Franklin received his obstetric training at Philadelphia Lying-In Hospital and the University of Tennessee, Department of Obstetrics.

He is the first recipient of the Fred Lyman Adair Fellowship from the Department of Obstetrics at the University of Tennessee.

ARKANSAS PRESIDENT

Dr. P. W. Lutterloh, Jonesboro physician, Saturday was elected president of the Arkansas Medical Society to serve during the 1948-49 year.

Concluding its annual two-day convention. the society, which names its presidents a year in advance, formally installed Dr. L. T. Evans of Batesville as president for the 1947-48 year.

Officers elected to serve with Dr. Evans were Dr. W. R. Brooksher of Fort Smith, secretary, and Dr. Paul Mahoney of Little Rock, treasurer.

DR. WHITFIELD HEADS FEDERATION OF STATE BOARDS

At the recent conference of the Federation of State Medical Boards of the United States, held in Chicago, Dr. Richard N. Whitfield, Jackson, Miss., for twenty-three years director of vital statistics and assistant secretary, Mississippi State Board of Health, was elected president. Dr. Whitfield is a graduate of the University of Nashville, 1905, and has served more than thirty years in public health work in Mississippi.

TYRONZA MEETING

The First Councilor District Medical Society held its eighty-ninth semi-annual meeting May 1 in Tyronza, Ark., Dr. L. H. McDaniel, the medical spirit of Tyronza, host. Many practitioners of the old school were present at this meeting, men with much native ability, men with medical patriotism, backed with Christian citizenship with the urge to serve humanity pounding in their hearts. It was good to be there and good to be invited to take part on such a program.

Dr. L. T. Evans, president of the Arkansas State Medical Society, the able P. W. Lutterloh, a past-president of the Mid-South Postgraduate Medical Assembly, Frank M. Acree, president-elect of the Mid-South, and C. P. Loranz, secretary manager of the Southern Medical Association, were all special guests. On the scientific program were Drs. T. Dueal Brown, Mervin H. Grossman, F. Walter Carruthers, W. H. Anderson, and R. L. Sanders.

There was a fine turnout at the Woman's Auxiliary, which was entertained by Mrs. Hiram Norcross and addressed by Dr. Marshall Wingfield of Memphis.

The barbecue dinner and program at the church proved the climax in fellowship and fun. It was good to be there.

HOSPITAL COMMISSION

At its regular session for May, the Mississippi Commission on Hospital Care approved a complete tentative draft of the Mississippi Hospital Construction Plan and has been submitted to the Federal Hospital Council through the United States Public Health Service at Washington, for approval.

The Plan provides for immediate construction of 1300 new general hospital beds, 200 tuberculosis beds, and twelve health department and health center buildings.

The first year's construction program will cost $11,600,000.

The community and local hospitals will be grouped into seventeen regions. In each region when the plan is completed, there will be a hospital of at least 100 beds. Each regional hospital will be of a size which will permit the establishment of a nursing school and internship and resident physicians' training.

In order for the first year's construction program to begin, it will be necessary for the plan to be approved by the Federal Hospital Council, and for the Congress to appropriate the $2,400,000 authorized under Public Law 725 at the last Congress. It is hoped this can be as early as July 1, 1947, opines Dr. D. V. Galloway, executive director.

The Commission also approved plans for a statewide Blue Cross Hospital Insurance Program, to be organized immediately. The Blue Cross Hospital Insurance should be of great assistance to communities in the support of hospitals.

PAST PRESIDENTS' MEETING

During the Mid-South Postgraduate Meeting in Memphis, Dr. Charles H. Lutterloh, president, entertained members of the Past-Presidents' Club with a fine banquet at the Peabody. Dr. Lutterloh is especially endowed with the qualities that men love as a host. The club was very grateful to him.

Dr. W. H. Anderson, secretary, reported the death of five past-presidents since the last meeting of the club five years ago, as follows: Dr. B. C. Arnold, Jackson, Tennessee; Dr. J. B. McElroy, Columbus, Mississippi; Dr. Peter W. Rowland, Oxford, Mississippi; Dr. Ephriam Rankin McLean, Cleveland, Mississippi, Dr. Clyde Speck, New Albany, Mississippi.

It was found that Dr. Jere Crook of Jackson, Tenn., was the oldest man present from the point of service, having served as president in 1904. Dr. John Darrington, a native of Mississippi, born in Wilkinson County in 1870, came next, also being a great surgeon, an able orator with a great medical soul and a magnetic personality. Dr. A. G. Hudson of Memphis, born at Water Valley, Miss., in 1880, proved to be the best informed man on the history of the Mid-South. Dr. F. L. Husbands of Blytheville, Ark., a native of Copiah County, Miss., Dr. H. King Wade of Hot Springs, Ark., and Dr. Nick Walker of Dyersburg, Tenn., both natives of Mississippi, completed the singular "Mississippi" roll call, Drs. C. H. Lutterloh, president and host, P. W. Lutterloh, F. L. Husbands, C. M. Harwell, J. C. Pennington, A. F. Cooper, honorary, J. L. Dunavant, H. King Wade, L. H. McDaniel, Jere Crook, Carl Crutchfield, W. H. Anderson, John Darrington, Nick Walker, A. G. Hudson and Allen Cox were members present. Dr. J. C. Pennington, the incoming president, expressed anticipation in having the club as his guests at the next annual meeting.

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Dr. Frank M. Acree, president-elect of the Mid-South Postgraduate Medical Assembly, was born August 13, 1897, at Dover, Tenn. He received his B.S. and M.D. degrees from the University of Tennessee in 1923.

He has been very active in organized medicine during his entire professional life, now holding active membership in the Delta Medical Society, Mississippi State Medical Association, Fellow in American College of Physicians, and American Association for the Study of Goiter.

Dr. Acree has held a number of honors at the hands of his fellow doctors. He was vice-president of the Mid-South in 1932, secretary to the Delta Medical Society 1935-1942, president 1947, fraternal delegate to Arkansas State meeting in 1947, and he has been certified by American Board of Internal Medicine.

Dr. Acree is a Mason, member of the American Legion, 40 and 8, Phi Chi Medical, AOA Honorary Medical, a Rotarian, and a member of the Baptist church.

He entered service in the second World War in July 1942, was sent overseas with the 184th General, chief of section of gastroenterostomy. He was discharged on October 1945, with the rank of major.

Dr. Acree has been very active and successful in the practice of medicine. He possesses a fine personality, is cordial and diplomatic, with firm convictions.

He is worthy of the high honor which has been bestowed upon him as president-elect of the Mid-South and will serve as its head with ease and ability.

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ANNOUNCEMENTS

George Brainard Higley, M.D., F.A.C.S, and Russell Beverly Ray, M.D., F.A.C.S., announce the opening of offices, 923 Madison Avenue, Memphis 3, Tennessee. Practice limited to orthopedic surgery.

Dr. E. LeRoy Wilkins announces the association of Dr. William T. Wilkins, recently of the U. S. Medical Corps in the Pacific, in the practice of eye, ear, nose and throat. 403 McWilliams Building, Clarksdale, Mississippi.

Campbell Clinic announces the association of Dr. Alvin J. Stewart and Dr. Marcus J. Stewart in the practice of orthopaedic surgery, 869 Madison Avenue, Memphis, Tennessee.

MID-SOUTH PHOTOS

Doctors desiring pictures of the banquet group taken at the Mid-South Postgraduate Medical Assembly may obtain 8x10 prints for $1.25 each from H. J. Wagner, Jr., Commercial Photographer, 1447 Union Ave., Memphis Tenn.

Health, like freedom and wealth, cannot be given, but must be earned. Edward J. Steiglitz, M.D.

Deaths

DR. CLIFFORD PITTMAN

Services were held March 9 at Ruleville for Dr. Clifford James Pittman, who died at his home in Ruleville following a long illness. He was fifty-eight.

Dr. Pittman was born in Webster County, was the son of the late Dr. Virgil Pittman and Mrs. Ada Pittman. In 1911 he came to Ruleville to live. He graduated from the University of Tennessee in 1909, and he was a member of the Mississippi Medical Association. Dr. Pittman served as a lieutenant during World War I.

Dr. Pittman leaves his wife, Mrs. Addie Sue McCorkle Pittman; three daughters, Mrs. B. F. Jackson of Ruleville, Mrs. Jimmy Goudelock of Merigold, and Mrs. Dawson Goudelock of Jackson; one stepdaughter, Mary Sue Young of Ruleville, and a sister, Mrs. William Lloyd of Cleveland.

DR. E. M. FAHNESTOCK

Dr. E. M. Fahnestock, 75-year-old Gulfport physician, was instantly killed March 3 when his car was struck by a Louisville and Nashville train at a grade crossing in West Gulfport.

He was en route to the City-County Hospital to attend a meeting when the accident occurred. He resided a short distance from the scene.

A practicing physician for fifty years, Dr. Fahnestock had resided in Gulfport for twenty-five years. He was a native of New Orleans. His medical degree was obtained at Louisville Medical College, Louisville, Ky., in 1897.

He is survived by his widow and one son.

DR. C. S. WILKINS

Dr. Creed Scott Wilkins, a practicing physician in Abbeville for the past thirty-two years, died suddenly at his home there Sunday, March 16, of a heart attack.

Dr. Wilkins was born in Marshall County on January 29, 1887, and on June 29, 1916, was married to Miss Mary Agnes Shaw, who survives him. Besides being a physician he was a director in the First National Bank and a director of. R.E.A. He was graduated from Memphis Hospital Medical College in 1911.

DR. GEORGE PRUITT

Services were held here for Dr. George Thomas Pruitt, who died at the family residence in Meridian following an illness of several months. Dr. Norman W. Cox and the Rev. Ray F. Dykes officiated. Burial was in the Magnolia cemetery. He was 73.

Dr. Pruitt was born in Kemper County in the Collinsville community where he practiced medicine for thirty-four years before retiring, coming to Meridian several years ago to make his home.

Dr. Pruitt was a member of the Mt. Zion Baptist Church and the East Mississippi Medical Society.

He leaves his wife, Mrs. Viva Ryan Pruitt of Meridian; a son, W. A. (Bill) Davis of Meridian; two sisters, Mrs. J. R. Sneed of Meridian and Mrs. S. B. Tucker of Collinsville

DR. C. J. EDWARDS

Funeral services for Dr. Charles J. Edwards, Sr., aged 62, died in Vicksburg March 13, following a lengthy illness.

Dr. Edwards was a native of Vicksburg, being born and reared in the city. He had been a practicing physician here since his graduation from medical college.

He was a veteran of World War I and member of Allein Post, No. 3, American Legion. He was the first commander of the Legion post in Vicksburg. He was a member of Holy Trinity Episcopal Church and was well known and highly esteemed throughout the community.

He is survived by his wife, Mrs. Norma E. Edwards; two sons, Dr. Charles J. Edwards, Jr., and Franklin S. Edwards, both of Vicksburg; a brother, Dr. Ira Edwards, Birmingham, Ala., and a sister, Miss Lizzie Edwards, of Vicksburg.

DR. R. P. DONALDSON

Dr. Robert Peyton Donaldson, Pontotoc County health officer for the past thirty-eight years and a practicing physician for the past forty-six years, died April 30 at the Community Hospital, Tupelo, following injuries received in an auto-truck collision on Wednesday preceding. He was 70.

Dr. Donaldson was born in Pontotoc County January 23, 1877, a son of Thomas Andrew Donaldson and Martha E. Stegall. He studied at the University of the South at Sewanee and the U. of T. at Memphis. He was a member of the Northeast Mississippi Medical Society, the Southern Medical Association and the American Medical Association. He was a Methodist and a member of the Knights of Pythias. For many years he served as vice-president of the Bank of Pontotoc.

He leaves his wife, Mrs. Dora Kirby Donaldson, and four daughters, Mrs. Gladys Secord of Birmingham, Mrs. Kathleen Simmons of Gulfport, Mrs. Roberta Day of Worcester, Mass., and Miss Martha Donaldson of Pontotoc; three sisters, Mrs. O. W. Knight of Osceola, Ark., Mrs. C. C. Dews of Clinton, and Miss Agnes Donaldson of Booneville, and one brother, Dr. Henry Donaldson of Robinsonville, Mississippi.

DR. A. J. CARTER

Dr. Alcus James Carter, for twenty-nine years a resident of Ellisville, but living in Dayton, Texas, the past four years, passed away Thursday, April 17.

Dr. Carter, with his family, moved to Ellisville in 1911. There he established his medical practice, serving those ill in health from all Jones County and other adjoining counties.

While in Ellisville Dr. Carter was active in civic movements. He was a leader in the Methodist church, a member of both the board of trustees and board of stewards. He was physician for the Agricultural High School and Junior College, and also the Southern railroad.

In 1933 he was appointed superintendent of the South Mississippi Charity Hospital, holding that position until 1936.

The deceased was born in Gloster, Miss., sixty-five years ago. He received his early education in Amite County schools, and received his medical degree at Tulane University, New Orleans, La.

He is survived by his wife, Donas O'Neal Carter; one daughter, Mrs. J. Ravid McNeil, New Orleans, La.; four sons, Sam O'Neal Carter, John R. Carter, A. J. Carter, Jr., all of Dayton, Texas, and Woodrow W. Carter, of Ellisville; four grandchildren; two brothers, D. R. Carter, Gloster, Miss.; E. B. Carter, Memphis, Tenn.; and one sister, Mrs E. B. Reynolds, Greenville, Miss.

DR. T. J. HOUSTON

Following an illness of one year, Dr. Thomas Jefferson Houston, 81, died in the Rush Infirmary in Meridian, April 18.

Dr. Houston was one of the pioneers in the medical profession in east Mississippi, having been a practitioner since 1889. Born in Collinsville, Miss.. Dr. Houston was graduated from the School of Medicine of the University of Tennessee in Memphis and the New York Polytechnic Institute.

Returning to his native state he immediately began the practice of medicine and in 1902 moved to Meridian where he had ministered to the ill since that time.

Dr. Houston was connected with the city health department for seventeen years. He was a member of the Woodmen of the World, the Masonic fraternity, Central Methodist church, the American, Mississippi, East Mississippi and Lauderdale County Medical societies.

During World War I he served as captain in the medical corps.

In 1890 he was married to Miss Susie Collins who survives him.

Other survivors are a daughter, Mrs. W. W. Shortridge, Meridian; four sons, Dr. J. M. Houston, Purvis; Thomas C. and James J. Houston, Meridian; Sam W. Houston, Yazoo; two brothers, three sisters all of Collinsville; eleven grandchildren and three great grand-children.

PREVALENCE OF COMMUNICABLE DISEASES IN MISSISSIPPI

	Feb. 1947	Feb. 1946	Feb. 5-Yr. Av.
Acute Poliomyelitis	6	6	3.8
Bacillary Dysentery	10	574	430.2
Dengue	0	0	0.0
Diphtheria	26	32	28.6
Influenza	466	14227	8936.2
Measles	66	2738	1769.6
Meningococcus Meningitis	3	15	25.8
Other Forms Meningitis	3	6	9.0
Pellagra	3	138	118.6
Pneumonia	173	2839	2081.0
Pulmonary Tuberculosis	143	97	123.0
Scarlet Fever	45	36	74.0
Smallpox	1	1	1.0
Tularemia	8	6	5.2
Typhoid Fever	3	3	6.6
Typhus Fever	4	19	6.8
Undulant Fever	7	1	3.6
Whooping Cough	70	476	683.6

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	March 1947	March 1946	March 5-yr. Av
Acute Poliomyelitis	2	3	2.8
Bacillary Dysentery	21	593	387.0
Dengue	0	0	0.0
Diphtheria	24	34	26.4
Influenza	1032	7030	5562.6
Measles	74	5838	2901.4
Meningococcus Meningitis	6	20	45.6
Other Forms Meningitis	3	10	7.4
Pellagra	2	179	143.6
Pneumonia	213	2260	1755.6
Pulmonary Tuberculosis	148	98	132.4
Scarlet Fever	47	117	86.8
Smallpox	0	5	3.8
Tularemia	7	14	11.2
Typhoid Fever	3	6	4.0
Typhus Fever	9	6	8.0
Undulant Fever	7	8	6.0
Whooping Cough	48	596	756.2

Interpreting Medical Literature

Staff of Review

Dermatology—James G. Thompson, Jackson
Otolaryngology—Charles R. Hume
Ophthalmology—Edley Jones, Vicksburg
Obstetrics and Gynecology—J. F. Lucas, Greenwood.
Orthopedics—Thomas H. Blake, Jackson.
Public Health—Felix J. Underwood, Jackson.
Pediatrics—Harvey F. Garrison, Jackson.
Radiology and Roentgenology—Karl O. Stingily, Meridian.
Pathology—R. M. Moore, Vicksburg, Miss.
Surgery—W. H. Parsons, Vicksburg.
Urology—Temple Ainsworth, Jackson.

PEDIATRICS

Streptomycin in Pediatrics—Hattie E. Alexander—Babies' Hospital and Columbia University College of Physicians and Surgeons, New York, N.Y.—Journal of Pediatrics, 29:-192-98, August, 1946.

"A standard method for in vitro testing of the therapeutic efficiency of streptomycin against H. influenzae consists of the use of a large inoculum (3-1700 million organisms), an optional medium (Levinthal broth or agar), and an incubation period of forty-eight hours. It is useful in demonstrating the emergence of resistant colonies in an earlier sensitive organism, for which eventuality the clinician must ever be alert.

The therapeutic results indicate that the emergence of a resistant strain is presumably related to the size of the bacterial population in the host. In a large population, a few resistant colonies thrive, particularly as the sensitive organisms are eliminated. This capacity can be determined by following the organisms with in vitro cultures as the disease progresses.

It has been noted that mild or moderate infections due to Hemophilus influenzae can be controlled with streptomycin alone, but severe infections require the full armamentarium of streptomycin, sulfadiazine, and type-specific anti-serum. Criteria for judging severity are clinical signs and spinal fluid sugar levels.

The streptomycin schedule for treatment of children with influenzal meningitis was 20,000 units (0.20 gm.) per pound of body weight intramuscularly daily in concentrations of 50,-000 units (0.05 gm.) per cubic centimeter or less. This was given in eight doses at three-hour intervals. An alternate method was constant intramuscular drip in a total volume of 240 cc. of normal saline. Between 25,000-50,-000 units (0.025-0.050 gm.) were given once a day intrathecally. Some patients exhibited temporary eighth nerve deafness.

The paper concludes with the following tentative indications for the use of streptomycin in pediatrics:

A. Streptomycin alone: 1) Any type of H. influenzae meningitis of mild or average severity; 2) tularemia; 3) infection of urinary tract, blood, or meninges with Proteus or Pseudomonas groups; 4) severe cases of typhoid fever or brucellosis; 5) urinary tract infections with colon and aerobacter groups after failure with sulfonamides.

B. Streptomycin plus sulfadiazines: 1) infection of the blood or meninges with any member of the gram-negative rod groups, originating from the intestinal tract. 2) Severe H. influenzae meningitis of types other than B.

C. Streptomycin, sulfadiazine, and rabbit anti-serum: 1) Severe type H. influenzae meningitis due to type B organisms.

D. There is some reason to believe streptomycin may prove effective against infections caused by dysentery bacilli, some of the salmonella types, K. pneumoniae, and H. pertussis, but clinical trial so far is inadequate for evaluation."

COMMENT: We feel that this article is a revelation so far as the therapeutic indications of streptomycin are concerned. It was our privilege to be in the Children's Hospital in Chicago not very long ago, and in looking over some cases with the resident, we were informed that that was the treatment used in practically all of the cases of influenzal meningitis.

In other words, the greatest, sweetest, loftiest experiences of life come in accumulations of adventures with masterpieces, supreme things.

State Board of Health

Felix J. Underwood, M. D.

AMEBIASIS—AN INTERNATIONAL HEALTH PROBLEM*

Alberto Prieto, M.D.

In this period of global health considerations it seems timely to discuss amebiasis. For a period of approximately fifty years—from 1875 to the late 1920's—amebiasis was considered primarily as a tropical disease. Losch first observed and described **Endamoeba histolytica** in 1875 in what is today known as Leningrad. Until the late 1920's amebiasis was considered a disease manifested by severe fulminating dysentery or a liver abscess. As epidemiologic studies were carried out in different parts of the world these views have been gradually modified as it became obvious that amebiasis is a widely distributed cosmopolitan disease. However, its incidence is higher and its clinical manifestations are more severe in the warmer climates than in the temperate zone.

In the Western Hemisphere coprological surveys have shown that **Endamoeba histolytica** can be found from Canada to the Straits of Magellan. The majority of the surveys have been done in the United States, Argentina, Panama and the Canal Zone. Data is lacking from most of the Latin American countries, however it is estimated that in the United States about twelve to fourteen millions of the population harbor this protozoa, while in the tropical countries the incidence is higher.

It is very difficult to evaluate these surveys because there has been no uniform pattern in conducting them. The type of population examined, the number of individuals, the number of stools of each person examined, and most important, the technic employed and the ability of the examiner to recognize the **Endamoeba** in its different forms are all factors to be considered. The type of population is an important element since surveys done in hospitals, clinics and asylums do not offer a true cross-section of the inhabitants of a country. The examination of a single stool specimen at its best provides a degree of reliability of only about 15 per cent. Several stools examined by direct smear and D'Antoni stain, flotation and centrifugation as the zinc sulfate technic and staining of fresh preparations with iron hematoxylin stain, provide a diagnostic reliability of about 90 per cent.

Last, and by no means least, is the technical ability of the microscopist to diagnose **Endamoeba histolytica**, especially in the cystic stage. There seem to be comparatively few technicians sufficiently trained to render a reliable diagnosis. In Central America, where I lived for a number of years, it is the usual procedure to diagnose for **Endamoeba histolytica** on any stool specimen sent to a laboratory. In this country when a patient's stool is examined using the more refined diagnostic technics, **Endamoeba** other than **Endamoeba histolytica** are often found.

Man is not the only host to **Endamoeba histolytica.** Dogs, cats, monkeys, rats, pigs, guinea pigs and rabbits have also been known to be susceptible.

Amebiasis is transmitted wholly by the ingestation of cysts by the oral route. Water, food, flies and contact contamination have all been suspected as means of conveyance. The water theory has been supported by several epidemics; namely the epidemics of Chicago, the Canal Zone, and Manila. There is little doubt that shallow wells in rural areas serve as a source of infection in the southern United States.

Food seems to be the most common means of infection. In the Tropics, infection is transmitted by the eating of raw vegetables grown on farms fertilized with human excreta, provided that the dessication of the cysts does not take place. Food handlers are also an important source of contamination. In certain of the Latin American republics, where the sanitary laws do not require compulsory examination of food handlers, it is very easy for infected individuals to spread amebiasis if they are not properly careful for their personal hygiene.

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*Presented before the Mississippi State Board of Health Staff Conference, Jackson, Miss., April 19, 1947.

Flies have been incriminated but are not considered as important as the other means of spread of amebiasis. Direct contact is most commonly found to be the cause of infection in institutions such as hospitals, orphanages, asylums and prisons.

Clinically, infections with amebae can be divided into: 1) carriers of the parasites who present no symptoms—the so-called healthy carrier; 2) those who present mild diarrhea and other indefinite symptoms; 3) those who have definite attacks of diarrhea of considerable duration, unaccompanied by blood or other dysenteric manifestations; 4) those who present very indefinite symptoms of acute dysentery; and 5) those with amebic infection of other organs.

The carriers present the biggest problem. They number about 50 per cent of the persons with amebiasis and are potential sources of infection especially if they are food handlers. They are discovered only during routine examinations of feces or in surveys made to determine the prevalence of the parasite.

The second group of cases is also important, because they exhibit symptoms which at times do not reveal to the physician that amebiasis may be the cause of the patient's complaint. Lassitude, loss of appetite or a capricious appetite, muscular weakness, coated tongue, persistent dull headache, abdominal colicky pain most marked in the right iliac region, pain in the lumbar area and at times in the hepatic region, and many others, comprise the symtomatology of these cases. Frequently such diagnoses are made on these individuals as chronic or subacute appendicitis, or gallbladder disease.

The cases presenting the typical attack of bloody stools with tenesmus, mucus, etc., are so well known that discussion is not necessary.

Amebic abscesses of the lungs, liver and brain, amebic infections of the skin, and the rare amebic infection of the urethra are encountered with less frequency and require more specialized skill in diagnosis.

As for treatment of amebiasis, emetine hydrochloride is very effective in bringing the infection under control and in reducing the severity of the symptoms. It is also effective in the treatment of amebic hepatitis and amebic liver abscess. Carbasone, chiniofon or diodoquin constitute the chief present day forms of treatment for amebic colitis, whether acute or chronic. The same drugs are used for carriers. While the patient is under therapy a high protein and low carbohydrate diet is of definite value in aiding the cure of amebiasis.

Amebiasis is an important public health problem and rather widely distributed. The institution and enforcement of appropriate sanitary measures could bring its incidence down without question. A few of the measures that could and should be taken include the establishment of properly controlled sewage and water systems, routine examination of food handlers; coprological surveys of communities, education of both the physician and public, training of microscopists in the accepted technics for the identification of amebae.

In Central and South America, where the disease is endemic and rather widely distributed, much could be accomplished in bringing about some measure of control if there were adequate public health organization and facilities. Public health departments should be directed by trained personnel; full-time in their activities and free of interference from local politics. The public must be educated to improve their personal hygiene and to be aware of the danger of carelessness. There must be more laboratories established and better trained technicians. Following periodic surveys of schools, prisons, hospitals and asylums appropriate treatment should be given to those found infected. Food offered for sale in areas where flies are numerous should be protected by proper screening and care should be taken to prevent the breeding of flies by proper disposal of wastes. The prevention of the pollution of water supplies and the sterilization of polluted waters are both important to the control of amebiasis. There should be protection against any cross-connections between sewers and the water supply systems of hotels, public buildings, eating places, etc. Finally, amebecidal drugs should be made available to all infected persons, including the indigent which make up the greater proportion of the cases. Eradication of the disease would go far toward improving the economic status of these people, as restoration of health would make possible improved earning power. Here it may be demonstrated again that better public health is the key to the solution of economic and health problems of a country or state. Your own state of Mississippi has made great headway in public health. It remains for other areas to achieve an equally good job if you are to maintain this record in an age when air travel may bring new hazards in the form of carriers of more virulent forms of diseases. The global aspects of public health are apparent.

Woman's Auxiliary

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STATE MEETING WELL ATTENDED

The Women's Auxiliary to the Mississippi State Medical Association enjoyed a record meeting on the Coast, May 5-7. The sessions were highlighted by an address on the challenge to doctors' wives to educate lay groups on keeping medicine free by Dr. George F. Lull of Chicago, secretary of the American Medical Association, a beautifully executed tea at the home of Mrs. E. C. Parker, given by the members of the Coast Counties Auxiliary, the annual luncheon at the Edgewater Gulf, with Dr. J. P. Wall as guest speaker, Coast drives and a yacht trip.

Mrs. Stanley A. Hill of Corinth, president, recounted progress made by the organization in membership, committee effort and coöperation with the medical association.

The following officers were elected for another year: Mrs. S. B. McIlwain, Pascagoula, incoming president for 1947-48; Mrs. J. K. Avent, Grenada, president-elect; Mrs. Stanley Hill, Corinth, first vice-president; Mrs. A. B. Harvey, Tylertown, second vice-president; Mrs. W. H. Anderson, Booneville, third vice-president; Mrs. J. P. Wall, Jackson, fourth vice-president; Mrs. Edgar Giles, Avalon, secretary; Mrs. J. D. Simmons, Cleveland, treasurer; Mrs. Harvey Garrison, Jackson, historian; Mrs. W. C. Pool, Carey, parliamentarian.

A.M.A. BULLETIN

Wives, sisters and guests of the nation's physicians, numbering 6,000 will meet in Atlantic City, June 9-13, when the Women's Auxiliary to the American Medical Association celebrates the twenty-fifth anniversary of its founding. The auxiliary convention will be held concurrently with the hundredth anniversary celebration of the A.M.A. Headquarters will be at Hotel Haddon Hall.

Tea will be served in the Garden Room of Hotel Haddon Hall in honor of the president, Mrs. Jesse D. Hamer, Phoenix, Arizona, and the president-elect, Mrs. Eustace A. Allen, Atlanta, Georgia. Guests will include national standing committee chairmen, presidents and presidents-elect of state auxiliaries. During the week, tours, a fashion show, luncheons, dinners, and a musicale will fill all time between convention sessions.

Local publicity chairmen are urged to see that local newspapers carry accounts of doctors' wives who will attend the A.M.A. meeting.

Many a maternity patient has received obstetric care in its most literal sense—that is, care which is focused only on her reproductive organs—and died from tuberculosis or diabetes or cancer soon after delivery. Hazel Corbin, R.N., Journal of Nursing.